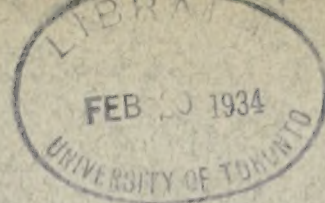


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AMERICAN COLLEGE
of SURGEONS

VOL. IX

APRIL, 1925

NO. 1

HOSPITAL STANDARDIZATION SERIES

REPORT OF HOSPITAL CONFERENCE HELD AT
NEW YORK, OCTOBER 20-21, 1924

AND

SURVEY OF HOSPITALS OF THIRTY-FIVE BEDS AND OVER
FOR THE YEAR 1924

AMERICAN COLLEGE OF SURGEONS
40 EAST ERIE STREET :: :: CHICAGO

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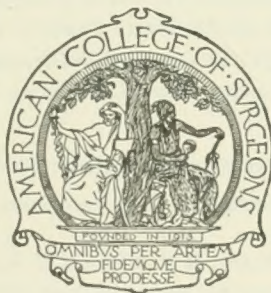
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AMERICAN COLLEGE OF SURGEONS
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The Minimum Standard

1. That physicians and surgeons privileged to practice in the hospital be organized as a definite group or staff. Such organization has nothing to do with the question as to whether the hospital is "open" or "closed," nor need it affect the various existing types of staff organization. The word STAFF is here defined as the group of doctors who practice in the hospital inclusive of all groups such as the "regular staff," "the visiting staff," and the "associate staff."

2. That membership upon the staff be restricted to physicians and surgeons who are (a) full graduates of medicine in good standing and legally licensed to practice in their respective states or provinces, (b) competent in their respective fields, and (c) worthy in character and in matters of professional ethics; that in this latter connection the practice of the division of fees, under any guise whatever, be prohibited.

3. That the staff initiate and, with the approval of the governing board of the hospital, adopt rules, regulations, and policies governing the professional work of the hospital; that these rules, regulations, and policies specifically provide:

(a) That staff meetings be held at least once each month. (In large hospitals the departments may choose to meet separately.)

(b) That the staff review and analyze at regular intervals their clinical experience in the various departments of the hospital, such as medicine, surgery, obstetrics, and the other specialties; the clinical records of patients, free and pay, to be the basis for such review and analyses.

4. That accurate and complete records be written for all patients and filed in an accessible manner in the hospital—a complete case record being one which includes identification data; complaint; personal and family history; history of present illness; physical examination; special examinations, such as consultations, clinical laboratory, X-ray and other examinations; provisional or working diagnosis; medical or surgical treatment; gross and microscopical pathological findings; progress notes; final diagnosis; condition on discharge; follow-up; and, in case of death, autopsy findings.

5. That diagnostic and therapeutic facilities under competent supervision be available for the study, diagnosis, and treatment of patients, these to include, at least (a) a clinical laboratory providing chemical, bacteriological, serological, and pathological services; (b) an X-ray department providing radiographic and fluoroscopic services.

REPORT OF THE HOSPITAL CONFERENCE OF THE CLINICAL CONGRESS
OF THE AMERICAN COLLEGE OF SURGEONS, HELD IN THE
WALDORF ASTORIA HOTEL, NEW YORK,
OCTOBER 20-21, 1924

MORNING SESSION—OCTOBER 20, 1924, PRESIDENT ALBERT J. OCHSNER, M.D., PRESIDING

THE Hospital Conference of the Clinical Congress of the American College of Surgeons convened at ten-ten o'clock in the Ballroom of the Waldorf Astoria Hotel, New York.

PRESIDENT'S ADDRESS

The work of the American College of Surgeons connected with the standardization of hospitals is of greater importance than any of the other functions of the College, with the single exception of the importance of selecting for Fellowship only surgeons who are morally, intellectually, educationally, and ethically entitled to Fellowship and who have acquired a sufficient amount of surgical experience so that they can be honestly recommended to the public as competent persons to whom life and limb of patients may be entrusted with the knowledge that the latter will receive proper treatment.

The plan of standardization implies proper facilities for scientific examination with sufficiently equipped laboratories. It implies the presence of a competent staff, the careful study of each patient by the staff members and in difficult cases the systematic advice of consultants.

In order to develop a system which was likely to bring success and result in the best possible care of every patient who entrusted himself to the care of the hospital, it was necessary to establish regular staff meetings and to insist upon regularly kept histories. The result has been fully up to expectation. It has not only served to improve the work of the men who had been competent and conscientious in their work before the introduction of standardization but it has served the purpose of eliminating many incompetent men and has stimulated many who might be called borderline staff members, who were just below those who were useful and competent, to put forth the necessary efforts to be entitled to recognition on the competent side.

Aside from this it has served to gain the respect of members of hospital staffs for each other and of

hospital authorities for their staffs and of the public for the medical profession. Above all it has stimulated the younger members of the profession to work in the right direction, so that we may look forward to a uniformity in excellence which would have seemed unattainable before the American College of Surgeons undertook the standardization of hospitals in this country.

In the meantime this work has not only been of inestimable benefit to the public and to the hospitals but of equally great benefit to the profession particularly to that portion of the profession especially deserving of proper intellectual, social, and material recognition.

So far our attention has been directed entirely toward improving the thoroughness of diagnosis and competence of treatment, the ethics of hospital staff members, and the facilities required to give each patient who enters a hospital the best possible care that can be given to a patient in his condition. This virtually has meant the practical application of the Golden Rule to the development and conduct of hospitals in this country.

Within a few years the College of Surgeons must give its attention to still another side of hospital work. It will require much thought and much research and a careful study of existing conditions in order to prepare for the working out of this problem but it is perfectly evident that the work must be done and it seems that the American College of Surgeons will be better equipped for this work than any other organization. I refer to the elimination of waste in the conduct of hospitals.

Hospitals in this country, as a rule, are conducted on a basis entirely different from most other human enterprises, because up to the present time one group has provided the funds for the construction and maintenance of hospitals, and another group, that had none of the burden or responsibility for providing the financial support, was entrusted with the expenditure of these funds. This established a condition which can be com-

pared with a family in which the father provides an unlimited amount of money to his sons without placing any responsibility upon them. The conduct of this system has resulted in an enormous waste in most of the departments and a consequent unreasonable cost of maintenance per bed per day. So long as hospitals had large endowments and relatively few people were treated in these institutions naturally no attention was paid to this feature. Moreover, the facilities furnished by the hospital made waste less expensive than it is now with all the innovations of late years.

Again, in former years by far the greater portion of hospital patients were entitled to a greater or less degree of charity and were willing to accept this. At the present time these conditions are entirely changed. By far the greater portion of all patients seeking hospital care are self-supporting and self-respecting members of society. These patients are entitled to the best possible care to be paid for at a rate which will be quite within their means.

When we remember that in this country 90% of the heads of families have an income of less than ten dollars per day or \$3,000 per year and that this enormous majority includes the most useful portion of our population consisting of farmers, teachers, salaried men of all kinds, and men with small commercial or manufacturing enterprises, it will become apparent that we are not doing our duty if we fail to provide hospital facilities for them which they can utilize without becoming impoverished and without becoming pauperized.

During the past few years the cost of hospital care has increased entirely out of proportion with the increase in income for this group of citizens. We will have to make a careful study of all the

useless things that have crept into hospital routine and to eliminate them.

The nursing problem will require careful attention. There is no other department of hospital work that has done more toward improving the treatment of patients than the general introduction of nurses' training schools into practically all hospitals, but very little attention seems to have been given toward the elimination of waste in this department and it will be well for the American College of Surgeons to give much careful attention and thought to this department of hospital work.

The management of operating rooms and dressing rooms in most hospitals has been conducted in an exceedingly wasteful manner principally because the heads of departments and the surgeons and their assistants have given no attention to the elimination of waste. The same criticism applies, to an equal extent, to the problem of feeding the patients and to the purchase and distribution of drugs. I simply wish to direct attention at the present time to these fields of useful interest and activity to which the American College of Surgeons may look forward in the future. There will always be new fields to develop in which the American College of Surgeons will have an opportunity to do constructive work without neglecting the work of keeping up the fundamental principles of standardization with which the American College of Surgeons has had an opportunity to do so much for the betterment of hospital conditions.

The necessity at the present time of providing conditions for the most useful class of citizens of this country is of the greatest importance. We have given the best to the rich and to the poor; we must give the best to those people who are of the greatest value to our country.

PRESENTATION OF THE OFFICIAL REPORT OF HOSPITAL STANDARDIZATION FOR THE YEAR 1924, AND ANALYSIS OF THE HOSPITAL STANDARDIZATION MOVEMENT DURING THE PAST SEVEN YEARS

FRANKLIN H. MARTIN, M.D., CHICAGO

Director General American College of Surgeons

AND

MALCOLM T. MACEachern, M.D., CHICAGO

Director of Hospital Activities American College of Surgeons

IT is a pleasant duty to make or present the Annual Report, that will be released in all parts of the country and Canada today, giving a list of the hospitals that have been approved by the American College of Surgeons in its survey for the last year.

It is a matter of great satisfaction to know that so many hospital people, physicians and surgeons, are interested in this great movement that was initiated by the College. It was taken up by the College reluctantly, the College feeling that the great democratic organizations should have fathered the movement. However, being unable to interest the other organizations and having a direct interest in this matter because of the necessity on the part of the candidates of the American College of Surgeons of furnishing records from these hospitals, the College finally reluctantly accepted the responsibility. It would seem that there has been no responsibility that has been accepted by this great organization, that has given the Regents more genuine satisfaction than that of surveying and standardizing or furnishing a standard for hospital betterment.

The American College of Surgeons has completed, in the period covered by this report, the seventh annual survey of hospitals in the United States and Canada. The list of approved hospitals published herewith shows the result of: (1) the seventh survey of hospitals of one hundred beds and over; (2) the third survey of hospitals of fifty to one hundred beds; (3) the preliminary survey of (a) hospitals of thirty-five to fifty beds, (b) National Homes for Disabled Volunteer Soldiers, (c) Marine Hospitals of the United States Public Health Service.

During the year twenty-one hospitals in New Zealand, Australia, and Hawaii were visited, but as the survey in the new field has not yet been finished the list as published in this report is incomplete.

PROGRESS OF HOSPITAL STANDARDIZATION

Hospital standardization, a movement for hospital betterment, though carried on actively for only 7 years has made splendid progress as shown by the following statistics.

1924

- A. Approved hospitals of 100 beds and over—
 - Number of hospitals surveyed 961
 - Number of hospitals approved 831
 - Percentage 86.5
- B. Approved hospitals of 50-100 beds—
 - Number of hospitals surveyed 973
 - Number of hospitals approved 508
 - Percentage 52.2
- C. Approved hospitals of 35-50 beds—
 - Number of hospitals surveyed 307
 - Number of hospitals approved 49
 - Percentage 15.9
- D. Summary for 1924—
 - Total number of hospitals surveyed . . . 2366
 - Total number of hospitals approved . . . 1416
 - Average percentage for the United States and Canada (50 beds and over) 69.3
- E. Summary—
 - (1) Seven surveys of hospitals 100 beds and over:

Year	Hospitals Surveyed	Hospitals Approved	Percentage
1918	692	89	12.9
1919	692	198	28.6
1920	692	407	58.8
1921	761	573	75.3
1922	812	677	83.4
1923	870	751	86.2
1924	961	831	86.5

- (2) Three surveys of hospitals 50-100 beds:

1922	812	335	41.3
1923	916	430	46.9
1924	973	508	52.2

The hospital program of the American College of Surgeons as expressed in the minimum standard has developed rapidly and taken firm root in the hearts and minds of the people of America. There is an increasing demand for it from all quarters. The movement for hospital standardization has become its own propagandist, for it has proved its worth. The program is definite, its requirements reasonable, its methods of presentation acceptable. The requirements are universally recognized for the reason that they aim at focusing the attention of the hospital directly on the patient. This surely means much to the 12,000,000 patients who are passing through the hospitals of the United States and Canada annually.

INCREASING INTEREST AND CO-OPERATION IN HOSPITAL STANDARDIZATION

Hospital standardization, in its few years of existence, has accomplished much for better hospital service. This record of achievement is due in no small part to the keen interest and co-operation which has been manifested, not only on the part of the hospitals themselves, but also on the part of the medical and nursing professions, the general public and the numerous allied organizations in the field, national, state, provincial, and local.

During the year the utmost co-operation and assistance has been forthcoming from the Council on Medical Education and Hospitals, the American College of Physicians, the American Society of Clinical Pathologists, the various radiological associations, the American, the Catholic, the Protestant, and the Methodist Hospital Associations, the Central Council on Nursing Education, and other national, state, provincial, and local allied associations as well as numerous governmental departments.

This year requests to include their respective groups of hospitals in the survey were received from the Board of National Homes for Disabled Volunteer Soldiers, the United States Public Health Service, the United States Veterans Bureau, and the Medical Departments of the Army and Navy respectively. All this work has been completed excepting that of the latter three, which has been commenced but will not be finished till early in 1925.

It is only through whole-hearted interest and co-operation of this kind that much can be accomplished by the College, while on the other hand the College is anxious to co-operate with the various groups mentioned and be of any service it can to them.

AIMS AND OBJECTS OF HOSPITAL STANDARDIZATION

The objects of the hospital standardization movement are definite and practical. They may be summarized as follows:

(1) To focus all the activities of the hospital on the patient. We recognize today that the patient is the most important person in the hospital and all activities should be carried on with this always borne in mind. Every person in the hospital organization, regardless of what he does, has a unit of service to contribute toward the patient's welfare. Hospital service is composite in nature—all focusing on the patient. (2) To provide in hospitals adequate and efficient organization, personnel, facilities and procedure so as to insure for the patient (a) an early, accurate, comprehensive diagnosis, (b) the most rational and scientific treatment, (c) the rapid return of the patient to normal physical health if at all possible. It is the responsibility of every hospital to provide this for each patient treated therein. It is the minimum the patient is entitled to. (3) To promote better co-operation in and among the three groups directly connected with the hospital, namely, the board of trustees or governing body, the medical staff, and the hospital staff or personnel. These three bodies must work well together in the performance of their common task—caring for the patient. Within each group harmonious co-operation is very essential for success. (4) To promote better co-ordination throughout the institution. Analysis of hospital service shows clearly that it is made up of a number of distinct units differing in character, but interrelated and interdependent to a very marked degree. These units must be well co-ordinated in order to secure the best final results. Hospital standardization is bringing this co-ordination about. (5) To stimulate more interest in clinical work. Through the periodic staff conferences for analysis of the professional work of the hospital, through good records, and available, adequate diagnostic and therapeutic facilities, it is only reasonable to expect that more interest will be aroused in the clinical work—especially in a closer study of end-results. (6) To educate the public as to the right kind of hospital service. The hospitalization of the sick is a big problem today. On the average one out of ten persons in the United States and Canada goes into hospitals for treatment annually—last year almost twelve million people went through these hospitals; the outlay for maintenance was approximately one billion dollars. When we realize this, is it not essential that the public be intelligently informed as to hospitals and the

HOSPITAL STANDARDIZATION

service they not only wish to give but are responsible for giving in the right way?

The minimum standard so well known to you all grew out of clear thinking minds with vision and proper perspective in search of ways and means to improve surgery. The founders of the movement discovered a need for improvement in hospital service and established a practical remedy in the minimum standard requirements—a measure of professional efficiency and service to the patient. Though this standard is minimum in name, a proper interpretation shows that it is maximum in effect and application, for it has a beneficial influence on all the service throughout the institution, the aggregate effect of which is reflected ultimately in the care of the patient and results obtained.

Finally, it may be justly claimed for this program that when conscientiously applied at least four important benefits will accrue therefrom. These are: (1) the shortening of the number of days the patient stays in the hospital; (2) the elimination of incompetent and unnecessary surgery; (3) the reduction of infections and complications, and (4) the lowering of the hospital death rate.

Any hospital can accomplish these if imbued with the proper spirit and interest in this movement. It is the serious responsibility of all hospitals to give careful attention to the above four suggestions.

THE PRESENTATION OF THE HOSPITAL STANDARDIZATION PROGRAM TO THE FIELD

The program of hospital standardization is presented through personal visits from a group of carefully selected hospital visitors or surveyors, graduates of Class A medical schools, with hospital experience and executive ability. These representatives are thoroughly familiar with the application of the requirements of hospital standardization. They survey the institution according to a well outlined procedure and record their findings on a prescribed form for that purpose, thus making all inspections uniform. This report is sent immediately to headquarters and with other data is fully considered. It must be remembered that the visitor is not there to pass judgment on the hospital but to *find the facts* in an impartial, unprejudiced manner, and report same to headquarters, and there it is determined whether or not the hospital meets the minimum standard. The personal visits and the impartial manner in making the report appeals to the hospital as an unprejudiced effort to arrive at facts. A follow-up service is then instituted and all the

assistance necessary rendered from headquarters to eliminate deficiencies in hospital service.

HOSPITAL STANDARDIZATION EXPLAINED

STAFF ORGANIZATION

Efficient staff organization is essential for the professional success of any hospital. Such an organization sets forth definite requirements for membership and should be based on the following principles or considerations:

The staff of the hospital as interpreted in the minimum standard requirements laid down by the American College of Surgeons includes all doctors privileged to practice in that institution, whether or not already organized into other groups such as "consulting staff," "appointed staff," "courtesy staff," or others.

The board of trustees guards carefully the granting of privileges to practice in the hospital. This is extended only to those who are (a) full graduates in medicine, in good standing, and legally licensed to practice in that particular state or province, (b) who are competent in their respective fields of activity, and (c) who are ethical in business and practicing methods. Non-medical practitioners have no place in an approved hospital. Likewise any doctor practicing methods regarded generally by the profession as unethical, unsound, unscientific, or commercial, is debarred from use of the hospital facilities.

The board of trustees and staff go definitely on record against the practice of fee-splitting by the unanimous adoption and enforcement of the anti-fee-splitting resolution. In this connection it is recommended that the resolution, or the rules and regulations embodying it, be signed individually by the doctors having the privileges of the hospital.

The staff formulates rules and regulations setting forth the organization and procedure for the guidance of the professional work of the hospital. These are then approved by the board and finally adopted by the staff, and the individual members thereof affix their names to them as an evidence of good faith that they will abide by these requirements.

A staff requires certain officers and committees in order to function. It is advisable that there be a chairman and a secretary, both having leadership and initiative, and a few working committees such as: an executive committee to look after the business and administrative affairs coming before the staff; and standing and special committees to take up the work as necessary—the former carry-

ing on during the entire year and the latter for the time required to accomplish the special work assigned.

It is of the greatest importance that the staff, which includes all physicians privileged to practice in the hospital, meet in conference regularly at least once a month at a specified time and place, preferably in the hospital. The staff conference is the main objective of organization.

The agenda for the staff meeting provides a thorough review of the hospital service during the period under consideration and as outlined in the monthly analysis sheet submitted. The discussion is analytical in type and includes all the data concerning the volume and quality of work carried on. The major attention is directed to the latter or the quality of work and this is brought out in a free and open discussion of agreement and disagreement of diagnoses, frequency of consultations, infections, unimproved, deaths and anything else closely related to the clinical work. It should consist of a complete medical audit. The discussion is always impersonal and the criticism constructive in nature. The meeting is characterized by a spirit of unselfishness, each member being willing and anxious to give of his experience for the benefit of others and to receive from them for his own. Each physician permitted to practice in the hospital shows his loyalty to the institution in fulfilling his duty as a staff member by supporting a clear, straightforward analysis of the clinical assets and liabilities.

The staff conference is, in other words, the periodic medical audit which each hospital must have. It is important to have a well-arranged and interesting agenda for this conference. This agenda usually includes: (a) a discussion of business and administrative matters pertaining to the professional work of the hospital, which embodies, after the roll call of members and the reading and disposal of minutes of previous meetings, the reports of various committees, and new business. Too much time cannot be taken up with this phase. It is recommended that the business and administrative details as referred to above be dealt with at a previous meeting of the staff or executive committee. (b) A discussion of the clinical work of the hospital, having for its main objective a thorough analysis or audit for the period under review as follows: (1) The presentation of a report of the work of the hospital for the month, on blackboard or through the distribution of the monthly analysis sheets properly filled out; (2) the discussion of patients discharged since the last review period with special reference to infections, deaths, or unimproved; (3) the discussion

of the condition of patients in the hospital, such as complications, unusual conditions, or intricate diagnoses; (c) the presentation and discussion of reports on case records and diagnostic and therapeutic departments as, the clinical laboratory, X-ray, etc.; (d) the considerations and recommendations for the improving of the professional service in the hospital. A record is kept of all the proceedings of each meeting and these are available for the hospital representative when making his survey.

CASE RECORDS

It has been well said, "A hospital without records is like a clock without hands, still running but giving out no information as to whether it is right or wrong." Case records are as necessary to a hospital as water is to a river. Every hospital, without exception, must have them.

It is primarily essential that in each hospital there is a definite determination on the part of the medical staff, the hospital staff and the board of trustees that good records are essential and must be secured on every case that passes through the institution. Records after a routine fashion are useless. They must be the outcome of sincere and interested effort. *An efficient record system in a hospital presupposes:* (a) A well organized and arranged department, having adequate space and equipment, such as desks, filing cabinets, typewriter and supplies, including the forms to be used. In respect to the latter there are several types in use. Some hospitals use the ordinary blank forms while others prefer the semi-stereo or semi-diagrammatic type. The American College of Surgeons submits samples upon your request. However, the form used is of little account as compared with that which is really on it. The medical staff in co-operation with the superintendent decides on the type of form used in that particular hospital.

(b) A personnel for the department such as a record clerk or librarian with the assistants necessary for carrying on and developing the system. When such is not possible the responsibility is placed on some member of the hospital staff having a knowledge of this particular work and who will see that the system works smoothly.

(c) A definite method for securing histories of patients. This appears to be a difficult task in some hospitals. There are five methods found in use. These are: (1) the taking of the history by the doctor himself; (2) the dictating of the history by the doctor to a clerk who transcribes it into typewritten form; (3) the use of the dictaphone by the doctor; (4) the taking of the history

by the interne who writes it up; (5) a combination of methods by which the history is secured through some means other than by the doctor who adds the physical findings and technical information. A quiet, convenient place on the ward with the necessary supplies readily available will assist materially in the producing of records.

(d) A proper supervision of all the records. This is important in order that good quality may be assured. There should be a triple supervision exercised in every hospital as follows: (1) The doctor in charge of the patient should be responsible for seeing that a history of good quality is promptly produced and when completed should affix his signature thereto; (2) the record clerk or librarian should be held responsible for seeing that all the parts of the record and findings are assembled into the patient's permanent file; (3) the efficiency or record committee of the staff in most hospitals should go over all the histories at regular intervals for the purpose of appraising them. Sometimes this function is assigned to a duly appointed medical registrar.

(e) A complete record of component parts. The record, being a clear logical story of the patient with all the data about the illness, the treatment, and the after results, must, therefore, be composed of logical units contributed usually through many sources. These component parts are:

1. *Identification data*—giving name of hospital; name, address, and case number of the patient; color, age, occupation, nationality, religion; dates of admission, operation, and discharge.
2. *Complaint*—the patient's statement of reasons (signs and symptoms) for seeking medical aid.
3. *Present illness*—an orderly story of the onset and course of the disease, beginning with date, mode of onset, and probable cause, and continuing with description of signs and symptoms of the disease or injury up to the present time.
4. *Past history*—a summary of the patient's life in its relation to pathology, illnesses with or without complications, operations or accidents; habits, social conditions or any data which may be related to the present condition.
5. *Family history*—such data as related to present illness; investigation of evidence of hereditary or infectious diseases.
6. *Physical examination* (not opinions but facts)—a complete detailed description by regions or systems, of the doctor's actual

findings as a result of a thorough examination of the patient.

7. *Special examinations*—consultations, reports of clinical laboratory, X-ray examinations, and other findings.
8. *Provisional diagnosis* (and indications for treatment)—a statement of the most plausible pathological condition to be recorded after completion of history and physical examination.
9. *Treatment, medical or surgical*—includes a record of all orders for medicine, treatments, and diets. If operated on the pre-operative diagnosis should be written before the operation begins. Give a full description of operative procedure and findings, normal and abnormal, and of all organs explored.
10. *Pathologist's report*—a full description, gross and microscopic, of tissues removed.
11. *Final diagnosis*—to be recorded when determined. Secondary and associated diagnoses should be recorded in the order of their importance.
12. *Progress notes*—an orderly story of the course of the disease, consisting of notes made each day for serious cases, of new signs and symptoms, complications, consultations, removal of drains, splints and stitches, development of infection in a clean wound, its cause and character, and all other data affecting the course of the disease.
13. *Condition on discharge*—a specific statement as to patient's condition in relation to normal health with positive or negative evidence of persistence of any symptoms pertaining to illness, carrying with it information providing a prognosis and indications as to fitness of the patient to return to active or working capacity.
14. *Follow-up records*—concise notes made at subsequent visits of the patient or from subsequent reports as to condition of patient, to determine end-results of treatment and appraise the work of the institution.
15. *Autopsies*—in case of death and postmortem examination, a full description of autopsy findings.

Filing of records. Every hospital should have a good filing system. Records being kept for many purposes must be well preserved and filed in a readily accessible manner for reference.

There are various methods used for filing records in hospitals today. Preference, however, is given to the envelope and vertical or folder sys-

tems, which are believed to be more practical and convenient. Each envelope or folder contains the complete data regarding the patient's illness and should have on the outside, in a readily visible location, the necessary data for identification, such as the patient's name and number at least. In many instances more detailed data is found and this also is commendable.

All records should be properly indexed. This presupposes a well-arranged record department under competent supervision of a record librarian or some person to whom this duty has been delegated who should have a working knowledge of the fundamentals of an efficient filing system.

A practical filing system includes the following:

a. Index for identification of patients whereby the record can be found at least by name or number. This may be further elaborated into indices for date of admission, date of discharge, service, or other divisions. However, the former two as mentioned above, the patient's name and number, supply the essential information for ready and accurate identification.

b. Index of diseases or diagnoses according to a classification by systems affected or anatomical or regional divisions. Several nomenclatures are available, namely, Standard, Massachusetts General, Bellevue, Dewey, Post, and many others. Many hospitals build up their own nomenclature.

c. Indices for (1) associated diseases or diagnoses; (2) secondary conditions or complications; (3) operations; (4) causes of death.

d. A monthly analytical summary of the work according to the analysis sheet, as suggested by the American College of Surgeons, showing volume of work done in all departments and results obtained.

It is advisable that in developing a filing system of this kind a hospital start out in as simple a manner as possible, gradually developing the system to cover the range of amplification indicated.

Follow-up. It is recommended that each hospital institute and develop a follow-up system of some kind for their patients. Through such means only can we properly appraise the work of the institution and determine intelligently the end-results of treatment. Hospitals are showing more interest in this matter at present.

Progress record. Hospitals generally must pay more attention to the progress records of their patients. This consists of a logically arranged story of the course of the disease, including notes made each day for serious cases and a record of new signs or symptoms, complications, consultations, removal of drains, splints or stitches, and of the development of infection in a clean wound,

with its cause and characteristics. The development of complications should be descriptive of physical findings and all procedures used in making the diagnosis, and treatment rendered.

Condition on discharge. It is important that the condition on discharge of all patients be fully described. This cannot be properly done by using a mere word such as "cured" or "well," "improved," "unimproved," or "died." There must be a specific statement as to the patient's condition in relation to normal health, with positive or negative evidence of the persistence of any symptoms pertaining to the illness. The condition on discharge should carry with it information providing a prognosis and indications as to the fitness of the person concerned in relation to working or active capacity.

CLINICAL LABORATORY

Every modern hospital has a well-equipped and organized clinical laboratory with adequate space, properly lighted and ventilated and conveniently located to the professional services of the hospital. Such a department provides at least the following services: chemical, bacteriological, serological, and pathological. It is essential that all tissues removed at operation be examined pathologically and the gross and microscopic findings carefully recorded.

Occasionally these clinical laboratory services have to be secured from outside, and under such conditions they must be readily accessible so that too much time is not lost in giving the patient the advantages of them. It is necessary to have the laboratory under competent supervision in order to be efficient. This is best done through the medium of a clinical pathologist, but where such cannot be obtained the supervision may be carried on by a member of the medical staff having knowledge of this work. Trained technicians under competent supervision render most favorable service. Records of all work done are kept in duplicate, one copy filed in the department and the other sent up to the ward to become a part of the patient's history.

There are several ways in which hospitals finance laboratory service: (a) they charge in accordance with a regular schedule of prices at so much per test; (b) they include laboratory service in the per diem rate charged to the patient; (c) they charge a flat rate to include all the laboratory work; (d) they allow a free service such as might be granted by a federal, state, county, or endowed laboratory; (e) they permit the pathologist to collect the entire fee and he in return gives to the hospital a complete service.

However, the system used must not limit or embarrass the amount of work called for or required in the best interests of the patient.

While hospital standardization emphasizes the importance of a well organized and equipped department as mentioned above, yet the primary consideration is *the necessary volume of efficient work being done for the patient.*

X-RAY DEPARTMENT

Like the clinical laboratory, the X-ray department is also essential in every hospital. It should have the necessary space, be properly lighted and ventilated and conveniently located in the professional services. It should be organized and equipped to do radiographic and fluoroscopic work at least. Superficial and deep therapy is advisable where possible and practical. A portable unit added to the equipment is of great value for cases that are not conveniently and safely transportable from the ward to the department. Supervision through a medical roentgenologist is essential not only from the standpoint of administration and the carrying on of complicated technique, but particularly on account of the interpretation of findings which can only be properly done by such a trained person. Records of all examinations are made in duplicate, one copy being kept in the department, the other sent to the patient's file on the ward as part of the history. The films or plates are filed in a systematic manner so as to be readily accessible when required.

HOSPITAL STANDARDIZATION AND THE SMALL HOSPITAL

The work of the College during the past 7 years has revealed an urgent need for extending the survey to the next group of hospitals, namely, those from twenty-five to fifty beds in size. In the beginning of the year there were three thousand, three hundred and twenty-two active general hospitals in the United States and Canada of twenty-five beds and over, registered with the College for survey. Of this number 861, or twenty-six per cent, with a bed capacity of 179,507, were one hundred beds and over; 922, or twenty-seven per cent, with a bed capacity of 59,079, were fifty to one hundred beds; and 1,529, or forty-seven per cent, with a bed capacity of 48,727, were twenty-five to fifty beds. Thus, forty-seven per cent, or almost half the number of hospitals in the United States and Canada, are in the twenty-five to fifty bed class.

It is interesting to note the distribution of these hospitals in relation to population. We find that

approximately twenty-two per cent are in cities of 100,000 or over; six per cent in cities of 50,000 to 100,000; eight per cent in cities of 25,000 to 50,000; fifteen per cent in cities of 10,000 to 25,000, and forty-nine per cent in rural communities under 10,000. This, however, does not mean that all hospitals of twenty-five to fifty beds are found in areas of 10,000 population or less, but it is a fact that a large percentage of them are to be found in such communities.

The College is firmly of the opinion that there is a real work to do for this group of hospitals—twenty-five to fifty beds. Many reasons can be put forth for this.

There has been an ever-increasing demand, not only from the hospitals themselves, but also from the public, for the College to extend the hospital betterment movement and service to the group of institutions of twenty-five to fifty beds, as over fifty per cent of the people, it is stated, live in the rural communities and the larger percentage of these institutions are found there. It is reasonable to claim that these hospitals serve a most worthy group who are entitled to efficient hospital service.

Hospitals in this class have more professional difficulties proportionately than the larger ones. Not only are there deficiencies in professional service due in some cases to lack of first hand knowledge, but occasionally there exist jealousies among the profession which tends to diminish good co-operation, consultations, etc. Under these circumstances the College has already been of constructive assistance.

In many instances we find the dishonest, unethical, fee-splitting doctors driven from the larger, well regulated approved hospital and carrying on in the smaller institution unchecked and uncontrolled in his professional work. The only remedy for this condition is to have these institutions standardized also, in order that such doctors can be eliminated or properly controlled. There is a very apparent need for this today.

It is well known from our daily experience that there are many emergency or acute surgical cases which are not safely transportable. There is, therefore, a very urgent need to have these smaller hospitals adequately organized and equipped to deal with such cases. Many hospitals of twenty-five to fifty beds lack scientific facilities and are having financial difficulties. The College can frequently help solve this problem by bringing about better team-work and co-operation between the larger and smaller institutions or between the hospital and the state or province in services such as X-ray and clinical laboratory. Grouping of these services can be done at a great financial

economy. The problem for each institution, however, must be worked out on its own merits. This can best be done by the College representative through his personal visit.

Thus the College, through a service of this kind, can be a factor in making available better hospital service for the mass of people. To this end the College has, this year, made a preliminary survey of all the hospitals of thirty-five to fifty beds in the United States and Canada, a list of the approved appearing in this report.

HOSPITAL STANDARDIZATION AND THE FUTURE

From the experiences of the past seven years the College finds it advisable and necessary to visit the hospitals annually in order to insure the best and most permanent results. The personal visit of the representative each year does much to keep the hospitals up to the standard as well as affording an opportunity for constructive aid in solving many of the more intricate professional problems that arise from time to time. To this end the College has endeavored to visit all the hospitals of fifty beds or over again this year.

The College further realizes that no survey can be carried on successfully without giving concurrently an extensive background or supporting service. Accordingly the Hospital Information and Service Department has been organized during the early part of the year. The work of this new department has grown rapidly and in the first ten months of its operation served 1,042 institutions seeking information and assistance in the solving of their problems and increasing the efficiency of the institution. This service is rendered through carefully edited letters or articles of information compiled at headquarters, through abstracted authoritative information and package libraries sent out on loan. The department has been able to give the field a much quicker service than formerly. On very urgent occasions a preliminary wire giving data in abstract may precede the package library in order to expedite matters. The service is free to any hospital upon request.

There have been ever-increasing demands of various kinds made on the College during the year, which have been met so far as it was physically and financially possible. The attendance and interest at the Hospital Conference of each Sectional Meeting has greatly increased and early in the series of meetings it was found necessary to extend the program to the second day. A large number of round table conferences have thus been held, affording all the hospital people an opportunity to informally discuss their problems.

In giving serious thought to the present and future development of the hospital standardization program the College feels that the time has now arrived when greater thought must be directed to (1) the giving of more attention by the hospitals to follow-up and end-results, (2) the developing of minimum standards for the various clinical services and departments in hospitals. This year the College has emphasized these two matters particularly, in the numerous Sectional Meetings held in the United States and Canada, and will continue to stimulate more interest in them.

It is most gratifying to note that greater attention is being paid to "follow-up and end-results" in hospitals today. This is the only way in which we can make a real appraisal of the work and properly compare statistics. No institution can be conducted in a comprehensive manner without close follow-up of all patients discharged and periodic interpretation of end-results.

The hospitals today are looking for standards and especially such as are minimum and practical. Valuable service can be rendered by the College in submitting carefully worked out minimum standards. It is the earnest desire of the College in this work that the institutions standardized will not be satisfied with merely meeting the minimum but will go on ever increasing in efficiency until the maximum is reached.

During the past year a minimum standard for fracture service in hospitals was established. This standard was submitted by the Committee on Treatment of Fractures of the American College of Surgeons after extensive investigation and subsequent study of data received through carefully selected regional sub-committees in all parts of the United States and Canada. This standard has been very well received throughout the field. The following are the recommendations by the Committee.

After extensive investigation and subsequent study of data received through carefully selected regional sub-committees in all parts of the United States and Canada, the General Committee on Fractures has submitted the following as a minimum in the treatment of fractures.

- A. That all general hospitals be equipped to care for fractures; that the minimum equipment for the transportation and emergency treatment of fractures be the following or its equivalent:
 1. Thomas upper extremity splints
 2. Thomas lower extremity splints with traction straps, slings and buckle straps

3. Hodgen splints
 4. Coaptation splints, assorted sizes
 5. Cabot wire splints
 6. Straight pieces of wood (of assorted length, width and thickness) for splints
 7. Plaster of Paris bandages
 8. Some form of overhead frame for suspension
 9. Suitable X-ray apparatus, including a portable machine, if practicable.
- B. That it is highly desirable that one individual surgeon be responsible for the supervision of the care of fractures in each hospital service.
- C. That special record sheets be used for fracture cases.

More recently a minimum standard for history taking has been recommended by the Committee of the College on History Review, an outline of which is to be seen in the text of this report under the heading of Case Records.

The College has attempted in its program, and will attempt in the future, to stimulate more interest in the organization and administration of clinical departments in hospitals. The programs of the Sectional and General meetings include interesting papers and discussions on the essentials for the organization and administration of such special departments as surgery, medicine, ophthalmology, oto-laryngology, obstetrics and other services. It is hoped that minimum standards may in time be established for these as a guide in hospital service and development.

DR. MACEachern

Two series of slides are presented. The first series shows the hospital standardization work of the College as carried on during the year 1924 up to October 1; the results of the 1924 survey, and the progress made during the last seven years.¹ The second series sets forth a number of facts and principles about the hospital standardization movement as follows:

- (1) The year 1924 has witnessed increasing interest and co-operation in the hospital standardization movement on the part of the entire hospital field, the various allied groups and organizations, and the public generally of the United States and Canada.
- (2) During the year the activities of the Hospital Standardization Department of the American College of Surgeons have been directed chiefly along five important lines, namely:

- (a) The annual survey
- (b) The aiding of the smaller hospitals with their professional problems and increasing the efficiency of their service
- (c) The rendering of a greater background of service to the hospitals
- (d) The focusing of more attention on end-results in hospitals
- (e) The developing of minimum standards for the various activities and clinical services in hospitals

(3) The preliminary work of the hospital standardization movement having been well done and a firm foundation laid, there will be a further accentuating and developing of these policies during the coming year—**AIMING ALWAYS AND ULTIMATELY AT THE SECURING OF THE BEST POSSIBLE SERVICE TO BE RENDERED BY EVERY HOSPITAL TO EACH PATIENT TREATED.**

- (4) The hospital standardization movement aims at the elimination of deficiencies in organization, facilities, procedure, and supervision as related to hospital service.
- (5) Up to the present there has not been any grading of hospitals. The American College of Surgeons divides hospitals of 35 beds and over into three groups:
 - (a) Fully approved;
 - (b) Conditionally approved;
 - (c) Not approved.

- (6) The standard suggested by the American College of Surgeons is minimum—the requirements are practical and adaptable, and provide a sound basis on which to build up the right kind of hospital service.
- (7) The function of the hospital visitor is to **FIND THE FACTS.** He is not required or expected to determine the rating of the hospital. This is done after due consideration of carefully recorded facts secured through personal investigation and additional data available at headquarters.

Seven ways by which Fellows of the American College of Surgeons can assist in the advancing of hospital standardization:

- (a) Attend staff conferences regularly and discuss the professional work of the hospital frankly and constructively.
- (b) Write your case histories promptly, accurately, completely. Procrastination is always unwise.

¹This data is published in the text above.

- (c) Promote the consulting spirit. "Two heads are usually better than one."
- (d) Make good use of the laboratory and X-ray but remember they cannot do your thinking or reasoning.
- (e) Study your hospital end-results. If possible make every monthly report better than the one before.
- (f) Let the people in your city or in your community know what is meant by a standardized hospital.
- (g) Keep the Hospital Department of the American College of Surgeons duly informed of all matters pertaining to the interests of the hospital standardization movement in your community.

GUIDING FUNDAMENTAL PRINCIPLES OF HOSPITAL STANDARDIZATION

REV. C. B. MOULINIER, S.J., MILWAUKEE
President Catholic Hospital Association

WE have heard, so far, a great deal about the quantitative achievements of the College of Surgeons in its standardization movement; we have heard something about the qualitative results. If I am to speak on the "Guiding Fundamental Principles of Hospital Standardization," I shall have to confine myself to the qualitative phase of hospital standardization.

A principle always means something of quality, good or bad; "Fundamental" means getting down to bed-rock; and "Guiding" means serving as a motive for conduct, usually. Therefore, I shall briefly say some of the things that I have often said before, some of the things that have been either said or intimated during this session in the hope that I may touch upon what is uppermost in the minds of the members of the College of Surgeons, of the nurses and the hospital managing personnel that may be here.

This whole movement I believe is vaster and deeper and broader and higher than anybody in the College of Surgeons ever dreamed of in the beginning. It is reaching out into a great group of sciences—all the medical sciences, the whole nursing science, sociology, and everything that concerns human health. It is, furthermore, reaching into the life of three great professions—the medical profession, the nursing profession and the hospital profession, and over and above all that it is reaching into the homes and lives and most intimate personal experiences of all of us, of the people, the public.

It is well to have the facts about the quantitative results, but it seems to me we cannot go on with sufficient safeness and security in this movement unless we pause from time to time, from year to year, and I should say especially this year, and ask ourselves what really are a few of the basic principles that must guide the College of

Surgeons, the whole medical profession, the nursing profession, and the hospital profession. I am going to claim that the first quality or characteristic of this work of standardization, and therefore of everybody engaged in it, must be thoroughness. No matter what point of view you take of it, it is science. Now, science is organized, systematic, balanced, weighed knowledge.

What are we getting in our hospitals as the result of standardization; what are we getting into our own minds in the way of scientific grasp of what this hospital standardization means? Are we thorough? Are we genuinely scientific in every phase of it? College presidents and university presidents today, and for some years back, are talking about the menace of the half educator, the menace of the half educated. Having been in college and university life for some years, I can say to you that the menace is very considerable, and it is apt to remain because it is not likely that you are going to get out of the college and the university much more than half educated men and women, because they are not capable of receiving a complete education. They are too young; they are too immature. Include in all this the colleges, the medical colleges, the nursing schools. Somebody has said that the medical student gets about 20 per cent of medical knowledge in the school and the rest of it, if he ever gets 100 per cent, in the hospitals, in his practice, by personal study, by travel, by observation.

Now what I want to plead for in this movement, because the movement is maximum standard in quality (admitting that it may be minimum in its quantitative demands), is that which every member of the College should want and which every member of the medical profession should want; namely, full, complete, balanced, educated medical care, including everything—nursing, diagnosis, and treatment of all kinds.

Therefore, thoroughness, scientific thoroughness, a thoroughness that grasps all that the present day knowledge of medical science and skill can present should be our aim. What excuse is there for any staff, any group of medical men, not giving the latest and the best and the truest and the proven things in medicine, as an aid to diagnosis and as a help to treatment? None whatever! It is laziness; it is lack of education; it is lack of sufficient knowledge to warrant a man being on the staff of an organized, standardized hospital. Thoroughness, therefore, is fundamental in the minimum standard—thoroughness on the part of the College of Surgeons in its work of survey, of investigation, and of final rating, or putting on the list—I am glad they have omitted the word “rating”; thoroughness on the part of the nursing force of the hospital, thoroughness, above all, too, in the general management of the hospital.

I would like to announce right here that the Catholic Hospital Association has established a Hospital College in connection with Marquette University of Milwaukee, for the training of hospital executives and all kinds of hospital technicians. I was a member of the Rockefeller Committee that furthered this, made the survey, and made a report. As far as I can find out, we are the first to start that kind of a college. What is the purpose of it? To make more thorough, more thoroughly educated, those who are in control of hospitals and those who are to furnish to the medical profession the technical service they need in diagnosis and treatment.

Thoroughness, therefore, it seems to me, is perhaps the deepest, though most far-reaching of the mental qualities, the soul qualities, which every one concerned with standardization has or gets.

Fairness is the next basic quality. If there is not fairness in all this, if there is not fairness in the College of Surgeons, in the admission and rejection of its membership, if there is not fairness in the survey of the hospitals and in their final acceptance as coming up to the so-called “minimum standard,” it will not go on with satisfaction, it will not persuade, it will not get into the hearts and souls and minds of hospital people and the medical profession. We must therefore have fairness, that great moral quality of giving everybody and all groups of people their due.

There is still another quality that is basic, it seems to me, and guiding, and that is fearlessness. Where would the College be today if it were not fearless? Where would it be today in this movement which has met, in spite of all the generous response, antagonism, criticism, absolute nega-

tion on the part of many, many medical men, some members of the College, nurses, hospital people all over the country, but for the fearless leadership in the College and the fearless following in the College. There must be still more fearlessness developed throughout the membership of the College and in the medical profession and amongst the hospital people who are being benefited.

Fearlessness is easy to talk about; we rather admire the fearless person; we look at him in wonder, but I think perhaps everybody here knows down in his and her heart that under certain conditions and circumstances fearlessness is an heroic quality. To stand for what is right, to stand for moral rectitude, for professional honesty, for high scientific achievement in the admission of a man onto a staff or the continuance of him on the staff calls for all the courage that men and women in the hospital are capable of, at times.

Now you members of staffs, you members of the College of Surgeons, if you want to be true to this movement, true to yourselves, true to your profession, have got to be heroically fearless and stand behind the people who are conducting the hospitals for you, in order that you may give to your patients the best, latest, most up-to-date medical diagnosis and care.

There are too many cowards on staffs; there are too many moral cowards in the medical profession; there are too many cowards, I dare to say, in the College of Surgeons, when it comes to these gripping, testing crises in the matter of a staff, in the matter of admitting a man into the College, in the matter of putting out fee-splitters.

There is just one more quality without which no great movement such as this can go on, without which you will not come to the minimum standard, regardless of whether you are on the list or not—you will fulfill the externals, but if there is not a strong quality of unselfishness, genuine, personal, professional unselfishness in the staff, on the nursing force and in those who are conducting the hospitals, you will never reach the minimum standard—and I am not afraid to say that some on the list are not reaching the minimum standard because there is not enough unselfishness in them!

Now, if the College can only devise a way by which to measure these moral and mental qualities, these scientific characteristics of the people in the hospital, they will find that their minimum standard is a maximum in the matter of quality. But we are all so human, we are all so weak in these great qualities, that I am looking ahead for some years for the time when the minimum standard will be reached.

THE UNIVERSITY HOSPITAL OF DUNEDIN

PROF. SIR H. LINDO FERGUSON, C.M.G., M.D., DUNEDIN, NEW ZEALAND

Dean of the Faculty of Medicine, University of Otago, New Zealand

I FEEL that there is rather a practical joke being played upon you in putting me up to speak at this stage, inasmuch as I have no message to deliver to you. About a week ago in Montreal I received a notification from Dr. MacEachern that I was expected to speak on the University Hospital of Dunedin, with which I have been associated for over forty years.

It occurred to me that there was nothing that was likely to interest you in connection with that hospital, but the subject was one which was very easily dealt with. I dare say, you know of the traveler who, writing about Iceland, devoted a chapter to snakes, and the chapter read: "There are no snakes in Iceland." Now I can answer the matter exactly in the same way here: We have no University Hospital in Dunedin, but we have a hospital in which all our work has to be done. I wish we had a University Hospital. I have been filled with envy at the control which your educational authorities have here over the selection and the management of the magnificent institutions into which I have been able to get an insight in the few days since I have been in the United States.

With us, we have not wealthy people who are openhanded and can provide large funds for the establishment and the endowment of hospitals, such as I see on every side here. Perhaps I might best use the few minutes in which I am entitled to delay you, by emphasizing what a teaching school can do for a hospital.

When I went to Dunedin first, our hospital there was in very much the condition that Dr. MacEachern in his paper here describes as dating from about 1745, or thereabouts. Things were as bad as they could be. To have to go into a hospital where there was a reek of fetid pus meeting you at the door, brought back the traditions of the worst days of early Crimean disaster. That was what we had to do every day we went into the hospital. The hospital was a building which had been built for a market and was then used as an exhibition place. The town was not large enough to demand it as a market and it was turned into a hospital.

There were four wards on the ground floor and four wards above, around a large central courtyard which was roofed in. These wards were overcrowded; the beds practically touched one

another; the baths were in the ward, so that when a patient got a bath, the whole ward was filled with steam. The walls were rough brick; the roofs were unsealed; and the floors were rough. Conditions of that sort made good work almost an absolute impossibility.

However, there was a small body of men, general practitioners, who were anxious to develop a School of Medicine there, and they felt that the first thing to be done must be to improve the hospital. It was owing to their efforts that the first changes were made, and their efforts were made in the face of very great opposition from the governing body, on the ground of expense.

The first thing obviously was to get nurses. We had a male warder for each ward containing about eighteen patients, and we had one male warder at night for the whole block of wards. What the female staff was at the time I cannot exactly recollect, but I can only remember two. I was thinking about that this morning and I am quite sure there were not more than four altogether on the nursing staff on the female side.

When attempts were made to force reforms on the part of the teaching staff on the hospital authorities, they simply bumped the teaching staff off. They had the appointment in their control. One year I recollect our lecturer on surgery was not put on the hospital staff. The next year the lecturer on medicine was not put on the hospital. Then we had to go to Parliament and get an act passed by which it became compulsory for the hospital authorities to grant clinical facilities to the teachers in our clinical subjects. Since then, I have not been uneasy about being bumped off myself, because, being there by act of Parliament, they cannot get rid of me.

But the condition is a very unsatisfactory one in many ways, inasmuch as every year the University has to go and ask the hospital trustees, who are elected by the rate-payers, to appoint certain men to their staff, and we never know whether we shall have men appointed to the staff who are able to teach from our point of view.

Now you may ask why the rate-payer should have anything to do with it. Our hospital system in New Zealand will be dealt with later in the day by Dr. Elliott, and I do not propose to cover the ground which he will deal with very much more ably than I can. However, roughly speaking, we

may say that our patients pay about one-third of the cost of their maintenance. Those who can pay, do pay. Those who cannot, of course have their charges written off. About one-third is raised by rates, on the rating district of Dunedin and of the country around, for some distance north and south, and about one-third comes from the general funds of the government as a subsidy on the amount raised by rates, but nobody except the rate-payer has the right to put people on the Hospital Board. The consequence is that their controlling body is a body whose primary interests are to keep the rates down, rather than to secure the highest degree of efficiency.

One thing that has struck me more than any other all during the time that I have been in America is the way in which the teaching facilities of the schools have been considered and the great influence which the educational bodies have in the control of appointments to the staff. That is a matter in which I hope to benefit very much by the visit I have paid here. When I go back, I shall make every effort to get the whole of the

treatment of the sick, the whole of the medical work in the hospital, taken over by the University. I am perfectly prepared to let the raising of rates and the paying of the bills be still in the hands of the Hospital Board, if I can only get the appointment and the control of the men who are doing the teaching, because it is the men who are doing the teaching who are going to influence the standard of the medical profession of the future, and you never can tell over how many years or how far that influence is going to extend.

In this matter, I look forward very hopefully to assistance from this organization. I have heard with very great pleasure, since I have come here, that there is a probability of Dr. MacEachern coming down to report on the hospitals of New Zealand and Australia, and I am perfectly certain that when he sees our conditions there, he will afford us the ready assistance which we so very much need and which has been so readily tendered and afforded us in other directions by the organization of which you are all members.

Gentlemen, I have to thank you very much for listening to me so patiently.

WHAT THE NEW ZEALAND DIVISION OF THE BRITISH MEDICAL ASSOCIATION IS DOING TOWARD IMPROVING HOSPITAL EFFICIENCY FOR THE PRACTITIONERS OF MEDICINE

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I THANK you very much indeed for the opportunity that you have given me to address you on a subject that I hope may interest you, although the country about which I speak is very far distant from here. We have nothing in our hospital system to commend itself very highly to you, because our hospital system, I hope and believe, is in a stage of transition, so that what I may tell you will be in part perhaps a shining light, but mainly, I am afraid, in the nature of a warning beacon.

When early settlement began in this country of which I speak, hospitals were established with the help of the medical profession, without any other thought than that of helping these people, these worthy settlers who had come to establish themselves in a new land; and that was the object of the medical profession then—not to conserve its own interests or to build a foundation for itself, but to assist these settlers to cut down the forest and protect themselves against the savagery of the natives of that time. However, very soon

the present system of hospitals developed, and that system can be briefly explained in this way: Unfortunately the total amount of the fees that the patients pay is very small, for reasons which I shall explain later, and equally unfortunately, there is very little money given from benevolent motives to the hospital, but the bulk of money for the maintenance of hospitals comes through the local bodies, the municipalities, and from the rate-payers, and the money so gotten from the rates is subsidized equally; that is, pound for pound, by the state or general government. It is a very simple method that has this advantage: A Hospital Board or Committee of Trustees draws up a budget of its requirements for the coming year, and a very little sum in the matter of arithmetic is necessary to see what rate must be struck on the property owners of the community served by the hospital, so that with an increment of pound for pound and the relatively small amount that will accrue from patients and from legacies, the money can be raised.

This system has been greatly admired by visitors from the British Isles and from other parts, because of its beautiful simplicity, because it cannot fail from the financial point of view; there can be no deficit, and no doubt that is a great advantage. But, on the other hand, this system, which is in a sense possibly socialistic, shuts out private charity, and to my mind for that reason alone cannot be very fully commended; in fact, public sentiment in New Zealand goes rather further. The Act of Parliament, under which hospitals operate, used to be called, until the last few years, the Hospital and Charitable Aid Act, but the words "charitable aid" seemed to be in some degree, I think, offensive to the people because they wanted to dissociate from their minds completely the idea that hospital service was in any sense a charity, and indeed they went further, to a ludicrous degree I think, in amending the name of another Act so as to cut out that term "charitable aid" altogether and to substitute for it the high-sounding but indefinite term "social service."

In our Hospital Act in New Zealand there is no clause to prevent in any way the wealthiest people in the country from making use of the public hospitals. Viscount Jellicoe, the Governor General, might go into a hospital, as far as the law is concerned; but there is a sentiment which prevents wealthy people from abusing these hospital facilities on a grand scale, although yet, at the same time, there is a fair amount of hospital abuse.

The fact that the government subsidizes the money used for hospitals to the extent of pound for pound gives the government, as a central authority, some control over the hospitals, and that is good, and it is also bad in some respects. It is good in this sense: That there is a co-ordinating control of the hospitals, because plans of new hospitals and estimates must be submitted to the government department, where there are officers who are specially versed in the planning of hospitals, and furthermore if hospital boards or hospital trustees want to be extravagant in building new hospitals, the government may refuse their subsidy and may exercise a curb on extravagance, for they may think that the money required is beyond the requirements of the sick people in the district or too heavy a drain on the pockets of the rate-payers.

In New Zealand last year, on new hospitals, there was a sum of 374,000 pounds spent—I think that is more than a million and a half dollars—and in that country, which is about the size of the British Isles, there are no less than 44 hospital boards in charge of hospital districts and ad-

ministering hospitals in the districts under their control. That is far too great a number of controlling boards. It means that in districts there is a comparatively large base hospital and often one or more secondary hospitals, and frequently when there is a large base hospital, there is no risk of extravagance in the secondary or subsidiary hospitals; but in other instances, unfortunately, the secondary hospital tries to rival the main hospital and leads to extravagance and waste of effort.

There is also this difficulty: That the large hospitals having greater facilities, tend to cause a drift of patients from the smaller hospitals to which they might go to these larger hospitals, so as to get more value there, and that leads to a certain amount of confusion because it is difficult to know to which hospital district the patient should be made a charge.

So that from what I have said you will understand that the framework of hospital control in our country is rather too big and cumbersome for our requirements and ought to be very largely curtailed, but unfortunately so far the tendency has been to increase the number of hospital boards and the number of hospitals, instead of diminishing the number. The reason of that, I think ought to be interesting to you, and possibly may come as a warning. It has been impossible to shut up certain hospitals or to prevent the mushroom growth of hospitals because of local feeling and because of political interference, the state coming into a large control of the hospitals because the general principle that I have enunciated, that few hospitals and good hospitals are better than numerous hospitals and inefficient hospitals, is not considered a sufficient argument. There has to be a detailed argument supplied, which is quite incapable of resisting the buttonholing and the political engineering that goes on for the purpose of getting a hospital planted in a district where it is not required.

Now we hope that that can be altered because there is a non-political body called the Board of Health, which ought to have control of the hospitals and could act in an unbiased way; and I take the view (I do not know if it will conform to the views of most of you) that where private enterprise can do a thing, that it is better that private enterprise should do it, than that the state should attempt to do it. For myself, I would not trust the state to water a horse or to feed the chickens, as long as I could get it done by private enterprise.

Our hospitals owe a great debt of gratitude, which I cannot adequately express, to the Amer-

ican College of Surgeons because of a delegation that came to our country at the beginning of this year. This delegation included a former President of this College and also your Director General, and their visit has already borne very much fruit because, as the result of what they told us, we are beginning the standardization of hospitals on your plan in New Zealand, and in fact under theegis of your College. That University College hospital, about which Professor Ferguson spoke this morning and about which he may have given you a bad impression by giving the history of its earliest days, is not much inferior to hospitals in America of the same size. It is standardized and I believe on your list, and we have other hospitals in Auckland of 400 beds, in Wellington and in Christchurch and other places at least equal to your minimum standard.

I would like to say a few words about the staffing of our hospitals. We have in the larger hospitals stipendiary medical superintendents who are full-time officers, and in the smaller hospitals we have doctors who are part-time superintendents of the hospitals and also are in private practice in the district, but that plan does not work very well because it gives an undue influence to that particular practitioner in the small town who happens to be superintendent of the hospital. In the larger hospitals we have honorary staffs, composed of the best surgeons and the best physicians in the district, and they serve these hospitals and do the operations on the people there, giving an enormous amount of time to the hospitals without any remuneration whatever or any hope of reward. The condition of these honorary surgeons and physicians is anomalous and unfortunate: it is anomalous because they are giving free service to hospitals which are not voluntary hospitals in the sense in which the hospitals in England are voluntary hospitals. Therefore, there is no analogy. And it is unfortunate because these men are giving their free services to these hospitals and they are having patients coming in under their care who, if they made any reasonable effort, might very well have their operations done outside the public hospitals and pay these doctors a reasonable fee.

Now you may ask, under those conditions, why is it that these honorary staffs do not resign and force the matter to a climax. Well, the reason is this: That we who are on the honorary staffs are hoping very soon for better things, and if we precipitated the matter and resigned now, the government would immediately attempt to carry on these hospitals with paid doctors; they would offer salaries so as to relieve the situation,

and in some kind of a way they would carry on, we believe inefficiently, with the paid and more or less servile staff that they would have.

Another reason why we do not resign to force the situation at the present time is this: We believe that the work of the medical profession in hospitals and the work of the medical profession in private practice are complementary, and that if those who are in private practice do not get hospital work, their efficiency will suffer, and what damages hospital work damages private practice, and vice versa, what is damaging to private practice is damaging to hospital efficiency.

Another reason why we do not resign is this: Because the question of establishing community hospitals, with which you are familiar and to which we refer as the "Toronto system," is now being agitated in New Zealand, and we have no hope of immediately getting these general hospitals put on a community basis; that is, where rich and poor and those of moderate means may get all the facilities of the hospital; but indirectly we have hopes that this reform soon will be accomplished, and I can tell you how in one or two sentences.

Although in New Zealand we have probably one of the lowest, if not the lowest general death rate in the world; that is, 9 per 1000, and although undoubtedly we have the lowest infantile mortality rate in the world; that is, 43 per 1000 births, yet some papers which came from the United States to New Zealand showed that our position in regard to maternal mortality was not a very enviable one, although it was not relatively very bad. The government became alarmed about maternal mortality and it became a political agitation and a Royal Commission was set up, of which I was a member, to inquire into the question as to how maternal mortality might be reduced. One of our recommendations was this: That women were not getting suitable places in which to be confined in the so-called private maternity hospitals, which were really private houses improvised for the purpose, and we recommended that the hospital boards, with or without government help, should immediately go in for a large scale system of building maternity hospitals for all classes of the community, irrespective of their financial position. That is being done, and we confidently hope that when this system now being established shows its advantages, that then in that side way, we shall get our general hospitals made like American hospitals, where all the facilities are not only given to those who are the liability class, who may be unfortunate, it is true, but who may be dissolute and thriftless, and the other people in the community must put up

with what they can get outside these hospitals that have every facility and every equipment.

We have in New Zealand about 295 of these private hospitals, and the regulations I am glad to say are becoming so stringent that I think these private hospitals will soon be put out of business. At present they are largely owned by nurses and a few by doctors. Two or three of them are very good, but most of them are merely houses that have been dwellings, where an operating room and a sterilizing room are fitted up, and then the place is called a hospital. It has no X-ray facilities or pathological facilities, nor any of the facilities that the wastrel and the member of the liability class can get in the other public hospitals.

I do not know that I have much more to tell you in regard to our hospital system in New Zealand. To summarize it, I would like to say that the state has a large control of hospitals and that the honorary staffs are doing work there in hospitals not of the kind where honorary staffs were first instituted; that is, hospitals that are dependent on private benevolence. There are some government hospitals in New Zealand of a special kind; for instance, maternity hospitals, that are excellent and that are turning out a large staff of good maternity hospital nurses through the country; there is an orthopedic hospital at Rotorua, where there are baths and springs, in a thermal district where excellent work is being done.

I think our hospital system for New Zealand, in regard to finance; that is, getting a large amount of money from the rate-payers, is a very good system indeed for New Zealand, because we are not blessed or cursed—whichever view you may take—with millionaires or very wealthy people and we cannot look for very large donations from our people for the keeping up of hospitals. Also getting money from the rates makes everyone pay for the hospital system, and those who are wealthy and who are mean in spirit cannot escape their obligation.

Then in New Zealand we are staggering under an enormous load of debt, and we cannot do many things because of the restrictions which finance puts upon us. In a new country, in one or two generations, we have to pay for roads and bridges and railways and post offices and public buildings, and then over all that, with a population of only a million and a quarter people, we had to go into debt to the extent of 120,000,000 pounds for the war, so that the debt that we bear is a crushing load, although it is borne quite cheerfully. Trading companies and men of large income are paying an income tax up to 40 per cent of their income, and

all that, of course, means that we have not much money to spend in large sums on hospitals or other benevolent objects which we would desire. But I do think that our system ought to be altered by helping to bring in as much private giving as possible to our hospitals by instituting a Hospital Week or a Hospital Saturday, because private benevolence is a tender plant that needs a great deal of fostering care.

In conclusion I would like to say this: while we have a good deal of what you might call paternal government; that is, the state paying a large share in hospital work, and so on, yet in New Zealand, although socialism has been talked largely, there has never been any socialist or labor government in office, but the tendency of the people out there—I do not know whether it will develop in America or not—certainly is to think that health is a national matter and that it is the duty of the state to take care of the sick; and that is why patients who go into hospitals do not try very hard to pay their bills. A very small sum is collected and very large sums are written off as bad debts, and the reason for that is what I have indicated to you—they think they have as much right to get free treatment when they are ill, as they have a right to get free education for their children, which they obtain. There is that tendency, and whether we like it or no, we have to submit to it. The analogy between giving free treatment to the sick and free education to the young is not a sound one because with the free treatment of the sick there is an unpaid staff, an honorary staff, doing the greater part of the work, whereas in the educational system of course the teachers are paid and they are not honorary.

What the outcome is to be, I cannot say, but it is a matter of sociological interest. I hope it is of some interest to you. We are most desirous of carrying back with us an even stronger desire to have our hospitals, which have become very good hospitals, but of course on a smaller scale, fit to compare with the average hospital here, to have their great facilities not restricted only to these people who to a large extent "sponge" on the hospital, who are not the pillars of the state, who are not creating new channels for the wealth of the country or not leaders of thought in the country, but in addition the clerk and the professional man and the civil servant and the farmer, and all these people should share the benefits of the hospital system and not be driven to these private hospitals which are inferior in many instances. The hospitals should be "community" hospitals where poor patients should be free, and

others pay the full cost of maintenance and nursing, and medical fees according to their means. The doctors would give honorary service to the poor in accordance with the traditions of the profession and receive fees from those able to pay. This system would maintain the self-respect of patients and be just to the taxpayer and the rate-payer, and to the medical profession.

What I have told you bears on the subject which has been assigned to me because the principles that I have enunciated are those of the New Zealand branch of the British Medical Association; we have taken up this question, and what I have said represents very fairly, I think, the views of our Association in New Zealand.

Finally, I would like to say with pride that our

Association has great power, both in Australia and in New Zealand. I do not think we are as strong as we are credited with being, but the public thinks that we are one coherent mass of energy; that there is no disloyalty amongst us; that we have got great power. I am proud to think that we are public-spirited, and I think I can say that we are public-spirited with truth, because right throughout the whole hospital question and all its difficulties, and in dealing with whatever injustice we may have had to suffer as a profession, we have never forgotten that we are servants of the public and that after all the interests of the state and the interests of the public take precedence over our own. I thank you very heartily for listening to what I had to say.

ESSENTIALS FOR THE DEVELOPMENT AND MAINTENANCE OF EFFICIENT HOSPITAL SERVICE IN INTERNAL MEDICINE

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IN very many hospitals, one service dominates and virtually controls the entire institution.

Can there be any possible doubt in the mind of any of you as to what service and policy now prevails with but few exceptions throughout the hospitals of this continent? Your efficiency has brought upon you a great responsibility. Are you willing to meet it by a full consideration of the needs of the other services of our institutions? The fact that you have invited me to speak before you today convinces me that you are and that you are truly far more interested in the welfare of our institutions than in any personal considerations.

The most important step in the organization of a medical service in a hospital is the selection of the men who are to carry on that service. A few men of high grade are much more desirable and efficient than a large group of men of doubtful type. High professional standing, even experience, is often of far less importance than the character of the physicians selected. Men should be first selected for a medical service because of their interest in Internal Medicine. Those interested only in the securing of a hospital position, and particularly those who wish the position only for purposes of advertisement or for social ambition are best avoided. There is no objection to the appointment to subordinate and temporary positions, but only to these, of men who admit that their ambitions lie along another branch of

medical work and who desire work on the medical service merely to broaden themselves and their knowledge of medical science in general. There are exceptions. During the war one of the best Chiefs of Medical Service that I had, was a young surgeon, who welcomed the opportunity to serve on the medical side, since operative work at that time on our front was at a standstill, and he felt that he could improve his diagnosis and scientific judgment by service in the medical wards. It is quite needless to say the sort of surgical work that this young man did; after all it is the man who makes the service rather than the hospital facilities or even the cases which come to the service.

Nothing is more destructive to the character of work in a hospital than to subordinate the Surgical service to the Medical, or the Medical to the Surgical. In every interest these two major services in particular should be on an exact parity. I make mention of this, because as some of you are doubtless aware in some hospitals of no mean size, switches, or perhaps you might call them promotions, are made from the Medical to a Surgical service, and very occasionally vice versa. This condition is very highly subversive of both good surgical and medical efficiency.

Notwithstanding even exceptional ability, men should not be selected to responsible positions on the Medical service who are trouble makers. Throughout there should be cultivated a spirit of

loyalty to the service and to the hospital. When possible a seniority system should prevail in the Medical service, and though division of scientific opinion should be always encouraged, especially in so far as the professional work is concerned, and though free and perfectly frank discussion in any service should always take place, once a matter of policy has been decided, each member of the service must subordinate himself to the majority decision. This should not, however, extend to the scientific work in the hospital, for here individualism and diversity of method and opinion should be considered as desirable.

A regular system of promotion should exist in every hospital and when possible seniority should rule, except in professional matters, when freedom of thought and method should prevail; the service should, none the less, always endeavor to present a solid front in matters of general hospital policy.

A spirit of hospital loyalty should be developed, one of co-operation with the other services. The best and most desirable service is always found in "A Happy Ship." When it has been decided to adopt any special series of charts, any particular nomenclature or system, once it has been adopted, the Medical service should do all in its power to adapt its needs to the general hospital ruling. Destructive criticism should not be permitted; always the endeavor should be to improve and adapt.

In its relation to the other sections of the hospital, the Medical service should always attempt to adopt a broad attitude, and to co-operate in every possible way. Consultations with other services should be welcomed and encouraged just as much as possible. Whenever a surgical, neurological, dermatological, or any other viewpoint on a case will be of interest either to the patient, to the hospital, or to the visiting or interne staff, it should be requested and the findings should be placed on record. I have found it usually advisable to make these consultations as informal as possible, but I insist that the consultant should record his opinions and suggestions on the chart so that a permanent record is made. Each hospital should decide and make definite rulings as to the conduct of its consultations, and these should be always conformed to, but as a rule the less formality the better, and if consultations are permitted without both services concerned being present, so much the better, otherwise the busy physician will fall out of the habit of asking other opinions because of the time frequently wasted at consultations. Mutual discussion should, however, always follow.

For the sake of good discipline in a hospital, the chief or senior on any service should have the final say as to the reporting of cases, but it should be encouraged to the utmost, particularly on the Medical service, and the junior members of the staff should be especially urged to report cases. A case report should include all consultation notes which have been officially recorded in regard to the case without especial authority from staff members whose notes are so included. The report of a case from any service should be considered as from that hospital, rather than from merely that service.

Particularly because of its effect on the interne staff, all notes on a case should be fully recorded on the official record. No secondary charts or private records should be entered on any case.

Where local conditions permit, the house staff should be distinct from that on the surgical side, but in smaller institutions where this is not practical, appointments to the dispensary staff, to outpatient services, and as assistants in medicine should be made with full reference to the character of special work which that particular interne has done on house staff duty. In so far as possible a regular system of promotion should be encouraged, though it is never wise to allow a service to become stale from selection of its members from a too narrow field. The character of the man, his ambition in a scientific way, and his willingness to give time, study and effort to the service should be always recognized. Men should none the less be always elected from the outside if they appear to offer more promise of benefit to the service.

Where more than one visiting physician is on duty on a Medical service, it is usually found advisable to assign cases numerically, but the mutual exchange of cases should be encouraged so that each visiting is thus permitted to study chiefly those problems which most interest him. In so far as possible the senior on a service should assign to his assistants and subordinate colleagues cases for their individual study which particularly interest them. Individual study should always be encouraged on a Medical service, and frequent staff conferences should be called; the more informal the better. A service *esprit de corps* should be developed if possible, but never at the cost of elimination of individual effort and independence of scientific thought. While responsibility for a patient should always be definite and centralized, the study of any definite case should be divided, if practical, between a group of men.

Each member of the Medical service, down to the interne staff, should be expected to put out

record, either in the form of case reports or of studies of some particular subject at least one article or a formal paper each year. A man unwilling or unable to contribute this amount of material is obviously unable to properly utilize the service, which should then be given to those desiring or competent to profit by it. Those men chiefly interested in the social rather than the scientific phases of medicine should under this ruling have ample opportunity to contribute as well as those who are primarily devoted to the scientific and medical work of the service. Devotion to a single specialty is perhaps usually essential for medical progress, but too fine specialization on a hospital service is usually undesirable. I refer, for example, to a complete division of medicine into cardiac diseases, pulmonary, gastro-intestinal, and the like.

It is unfortunate that very few hospitals are supplied with sufficient ward space to permit an ideal arrangement of space for the purposes of a Medical service but adaptations can be made from an ideal arrangement which will permit of satisfactory work in almost any institution where the real desire exists.

When the hospital supplies a routine ambulance service of a great city, the Medical service should be primarily divided into three parts: An Admission service, a Contagious service, and Regular Medical service.

All cases from the ambulance or dispensary after the preliminary examination of the admitting physician who will weed out primarily those cases definitely surgical or special in character, assigning them directly to proper wards, will in case of doubt enter them in the general admission ward, to which associated surgical and medical visiting may be assigned if so desired; and it works out very well if a young surgeon takes that diagnostic service, which it really amounts to, for a month, and then a medical man. I have seen no trouble result from that system. I believe it makes a better surgeon and I know it makes a better medical man. This service should be divided into a male and female side. For convenience all children under ten years are assigned to the female ward. The admission wards should be divided by screens or suspended sheets into cubicles, and all cases thus admitted should be assumed to be of contagious nature until shown to be otherwise. Nurses and physicians in attendance on these wards should be gowned and should observe the usual contagious precautions. It takes very little time, once you get into the stride.

Cases should not be held in these wards over forty-eight hours, during which time they are

under close observation. As fast as a working diagnosis is arrived at, the cases are removed from the admission wards to their permanent assignment, to active and chronic services where the size of the service and hospital permits this distinction. Before this all the contagious cases, including tonsillitis, active pharyngitis and the like should be assigned to regular contagious wards. In one well organized service with which I was associated all sore throat cases were kept in quarantine in special wards until the precise etiology was clear.

Service in the admission or diagnostic wards should rotate, for it is a particularly interesting and desirable service. No case should be permitted to leave this ward without a tentative or working diagnosis and the contagious conditions, medical, surgical, and special, should all be triaged out at this point. A record of the diagnoses made by each service should be kept and a proper but not rancorous spirit of rivalry encouraged.

While assignment to the regular medical wards should ordinarily be by rotation, as already stated, the trading of cases between visitings should be encouraged inasmuch as a man may thus be enabled to study out larger groups of particular disorders in which he may be particularly interested.

While each ward or group of cases should have a responsible authority over it, visiting in neighboring wards should be encouraged, the only limitation being that the visiting consultant or internist is required to record his opinion or findings in each case that he examines. The physician in charge of the admission wards will of course have the right to visit and follow cases transferred to the general wards, but he must assume no therapeutic authority unless by request.

The arrangement of the general wards will depend entirely on the character of cases on the service and on their numbers. A metabolic ward is particularly interesting and useful in most large hospitals, but the physician in charge of this ward must not be allowed to have exclusive right to all cases of this character, only to such as are assigned to him by the chief for special study. It is usually advisable to shift services or cases frequently so that divergent opinions and study may be recorded. Contagious services should ordinarily be held separate, excepting in smaller institutions, but should like all other medical wards, including the admission wards, be under the direct authority of the Chief of the Medical Service. I believe thoroughly in the Chief of Service; it is an idea which is growing, at least in our city, very rapidly.

A very close relationship should be encouraged between the Medical and the other services of the hospital. Frequent consultations should be urged and they should be made as informal as possible, but always a record of the conclusions or findings should be entered on the charts, as your excellent rules prescribe. Decision as to the transfer of cases from one service to another, as from Medical to the Surgical, for example, should always rest primarily on a consideration of the best therapeutic procedure from the standpoint of the patient. A particularly intimate association between the Medical and Surgical services should exist, and all members of the Surgical Staff should be welcomed at medical rounds. The same privilege should be also extended to the members of the house staff, when they are not otherwise engaged—and in the hospital which I have had the pleasure of serving for the last twenty-five years that has been the universal custom—for medicine is as dependent on surgery as surgery is on medicine. This visiting back and forth in one another's wards may not be good form, but it is certainly good practice.

The pathologist should be requested to assign one of his staff when possible to make rounds with the attending physician at least once weekly. For the past two years I have had one make rounds with me once every week. He shall be expected to make suggestions as to methods of further value in working up various cases, assist in diagnosis, and in such special methods of therapeutics as is represented in vaccine and serum administration.

The visiting, assistant, and house staffs should have free access to the use of the fluoroscope (some of you do not), but X-ray or fluoroscopic study should never be permitted by the house staff until the usual physical examinations have been made and recorded. If you do not look into that, they will do it. Once or more weekly a member of the radiographer's staff should demonstrate the plates of the cases on service. These demonstrations should take on the nature of a conference, and the clinical, laboratory, and X-ray findings should be discussed by all members present.

Whenever sufficient pathological material has accumulated from the Medical service, the pathologist should hold a demonstration of this material to which all members of the house, assistant and visiting staffs should attend. Free discussion, particularly of all points in question, should be brought out and the clinical findings compared with the necropsy and laboratory records. Whenever possible the specimens from cases should be presented and demonstrated.

At least once weekly grand rounds should be held, at which all members of the service, including if possible a member of the pathologist's, radiographer's and those of the consulting staffs who have seen the cases should attend. All members of the entire hospital staff should be welcomed at these rounds. The Chief of Service may detail any of the visiting or assistant staff to conduct these rounds, and members of the house staff may be appointed to demonstrate cases to which they have been previously assigned. This last scheme has worked particularly well in my service at the City Hospital during the past year, and the character of the service has vastly improved because I threw responsibility on the young men. The house men have since shown far more than usual interest in their work and the experience has been such as to fit them for early active participation in medical societies. There is very little dignity at my rounds. If an interne dissents with me, I want him to say so and give his reasons. Throughout I believe that every service in a hospital should consider its educational functions as very important, and if we send out staff men from the hospital prepared to immediately enter medical societies and to carry on clinical research, I believe that our work is truly missionary.

In so far as possible, after graduation from the house staff, men particularly interested in medicine should have places provided for them either on the dispensary, laboratory, or assistant staff, and an attempt should be made to see that most good men who have shown ability and ambition are afforded an opportunity to continue to develop particularly in the old service at their own hospital. We have encouraged and promoted also a Hospital Alumni Medical Society which has been very successful.

In our attitude toward the house staff, just so far as their capabilities permit, we encourage originality of thought and as many different viewpoints as possible are brought out in regard to any case, either at regular or special rounds.

Many modifications of this general plan are possible, as the conditions of the service and the capability and time of the staff permit, but I know that the above outline will work because it has worked well with me. During the war when all medical work and interest had to be subordinated to military demand, it was still found possible to carry on such a medical service, even with a constantly shifting personnel and one in which there was usually a great dearth of well trained men in internal medicine. Our results were still fully as satisfactory as in most stable civil hospitals.

Although as much scientific spirit and interest in research should always be developed as possible, the point should be constantly kept before the staff that the object of the service is therapeutic result, and secondarily the education of practitioners of medicine.

It must always be remembered by any service in a hospital that the best service interests must be oftentimes subordinated to those of the hospital as a whole. If thus a definite attempt is always made for full co-operation and united effort, every service will benefit thereby. There are few differ-

ences which arise in a hospital which may not be satisfactorily settled, if the spirit of co-operation and fair play is dominant. It is up to those who have the power and therefore the responsibility to exercise this spirit of co-operation and fair play. As a medical man I must say that the American College of Surgeons has shown all fairness in all my contacts with it. As for the Society which I have the honor of representing, we are in full admiration and complete accord with all the plans which you have made and put through so efficiently. We want to help.

A CASE RECORD SYSTEM AS A BASIS FOR APPRAISING SURGICAL WORK

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SURGICAL case reports have many uses, but the one discussed in the present paper is their use in estimating the character of the surgical work in the hospital concerned. There are two systems of case recording, the unit and the departmental. The one employed for the above purpose is the departmental.

The case report should be complete in itself, that is, everything necessary for the complete understanding of the case should be in the file and not stored in some other place. Such a case report, ordinarily termed a file, is demanded from each department for each patient in the same. If this patient is transferred to another department, or later re-admitted, a second file must be made and unnecessary writing is avoided by reference to the previous case report.

This file is a folder with a surface suitable for recording, thin enough, when in two layers, to be used in an ordinary typewriter, and strong enough to stand repeated handling without destruction. In size it is slightly over ten by twelve inches, so that it can contain, without their alteration, the vast majority of the X-ray films, which are of the ten by twelve inch size. Temperature and nurses' charts should be of corresponding size. On the front of this file (Fig. 1), in addition to the usual headings are the following:

1. The provisional or pre-operative diagnosis.
2. The final or post-operative.
3. The condition on discharge.
4. Remarks (under this is stated, if present, postoperative wound infection in clean cases and any complication).

The method employed to have each of the above correctly filled out is as follows:

1. No anæsthetic can be given to a patient by the anæsthetist until he reads from the case report the disease of the patient concerned.
2. This must be dictated by the operator in the operating room at the close of his operation.
3. This is entered by the clinical clerk as advised by the attending surgeon.
4. The clinical clerk notes whether postoperative fever persists or occurs after the third day, and if such is present, gives reason for the same, which is, almost always, either wound infection or a complication. This is checked in the record room by a glance at the temperature chart.

The case report proper is commenced by recording the symptoms and signs that caused the patient to seek relief and any others that may be elicited by further suitable questions or by examination (Fig. 2). These are put down in serial order and the discharge notes consist in writing opposite each its condition on discharge, adding any pertinent facts. The above forms the basis of the follow-up letter, which will be referred to later.

We come now to the record room. This should be an independent unit of the hospital, working directly under the Superintendent. It receives each day, from the main office, the discharge cards (Fig. 3), of the previous one. Each of these calls for a corresponding case report. In order to keep these cards and case reports in a suitable manner, so that each member of the staff, as he makes his daily and necessary rounds in the record room can see easily the condition of his case reports, the following desk was constructed (Figs. 4 and 5).¹

Finding it impossible to have all the case reports turned in the day the patient was discharged, a three-day interval was permitted, and so this desk was constructed with four compartments. Several tiers were made, so that each member of the staff could have his own special place. The discharge cards when received in the record room are placed in the first compartment, then moved on daily, and the corresponding case report, when received, is inserted into its proper compartment. On the fourth day, for every discharge card, there must be a completed case report. The compartments correspond in size to that of the discharge cards and of the files. Thus, each member of the staff can see at a glance how his case reports are coming in and can pick out quickly any one he wishes to review.

Then before the case report is filed away, the facts on the cover are entered in a sheet or book (Fig. 6), under the following headings: Case Number, Name, Surgeon, Correctness of Diagnosis, Operation, Deaths, Cause of Deaths, Postoperative Infections, Postoperative complica-

¹ This desk, for the sake of economy, is constructed double, with two faces, so that it can be used on both sides. The compartments for the case reports are divided horizontally, the upper half being open on one side, the lower half open on the other side; the drawers for the discharge cards are divided vertically, giving one space for each side.

ROYAL VICTORIA HOSPITAL

SURGERY			
Departmental No.	52467	Hospital No.	11623
Incision Date	June 23, 1924.	Admission Date	April 30, 1924.
Name	Tom Brown	Age	65
Sex	Male		
Address	224 Leval Ave., Montreal, Que.	Marital Status	Prot.
Occupation	Carpenter		
Referred by Dr.	Smith	Address	Montreal, Que.
Where Born	Canada.		
Condition of Patient on Admission	Walked in.		
Ward or Room No.	P		
Service of Physician	Dr. Jones	Internist	Dr. Black
Provisional Diagnosis	Carcinoma of Stomach		
Final Diagnosis	Carcinoma of Stomach, Pylorus.		
Operation	Gastro-enterostomy.		
Condition on Discharge	Improved.		
Remarks	Wound well healed, clean, thin red scar. P.O.P. due to small wound infection. Complication Phlebitis.		
D.A.B.	Internist	F.A.J.	
RV 164-21-308			

FIG. 1

tions, Condition on Discharge. A large space is left to hold the final results as learned from the follow-up system.

At the end of each month a summary of these findings is made under the following headings, (Fig. 7):

The Number of Operations, Correct Diagnoses, Postoperative Infections, Postoperative Complications, Postoperative Deaths, Condition on Discharge.

These, when possible, are in percentages. The monthly summary has to be made from the cases discharged during that month and not from the cases admitted.

This summary, placed before all interested bodies of the hospital, will to a great extent

enable them, by comparison with previous summaries and with similar reports from other hospitals, to estimate to a certain extent the character of the surgical work in their hospital.

The follow-up system used with the above consists in sending, as time and means permit, in certain groups of cases, letters (Fig. 8), to the patients concerned, stating that they had entered the hospital with certain symptoms and signs (as stated in the commencement of the case report), requesting that they return this, stating the present condition of the said signs and symptoms, and also noting any additional facts. This letter should be sent by the record room signed Records, and not by the attending surgeon. Then, on consultation with the staff, the final result of the

AMERICAN COLLEGE OF SURGEONS

CASE HISTORY

On Admission	On Discharge,
Signs and Symptoms.	
Weakness, - 3 years	Improved.
Indigestion - 2 years,	Cured.
Loss of weight - recent,	Improved,
Dyspnoea - on exertion,	Not improved.
Nausea -	Cured
Vomiting -	Cured
Constipation - 3 years,	Improved,
Pain - epigastrium	Cured

History of Present Illness:

Patient has always been well, till three years ago, when he began to notice he was unable to carry on with his work, because he was losing strength. Bowels till three years were always regular, and never noticing any bloody or tarry stools, or any clay-colored stools. Three years ago, noticed he was becoming constipated. At first bowels were moved easily with a mild cathartic, but lately, a very strong purgative is required. Appetite, at present, is very poor, practically everything he eats is vomited. The vomitus at first is the food he has eaten, later becomes yellow in color. Patient is frightened to eat, owing to the food causing the vomiting.

About three months ago, patient was seized with a dull aching pain in the epigastrium. This did not radiate, was only present after eating, and would last

FIG. 2

Dr. Jones

Dr. Smith

ROYAL VICTORIA HOSPITAL

Hospital No 40326	Case No 50413	Ward F
Name James Brown	Age 38	
Birthplace Canada	Religion Prot.	
Admitted; July 16, 1924.	Discharged, Aug. 21, 1924.	
Transferred to	Result, Improved	
<u>DIAGNOSIS:</u> Carcinoma of Stomach.		

FIG. 3

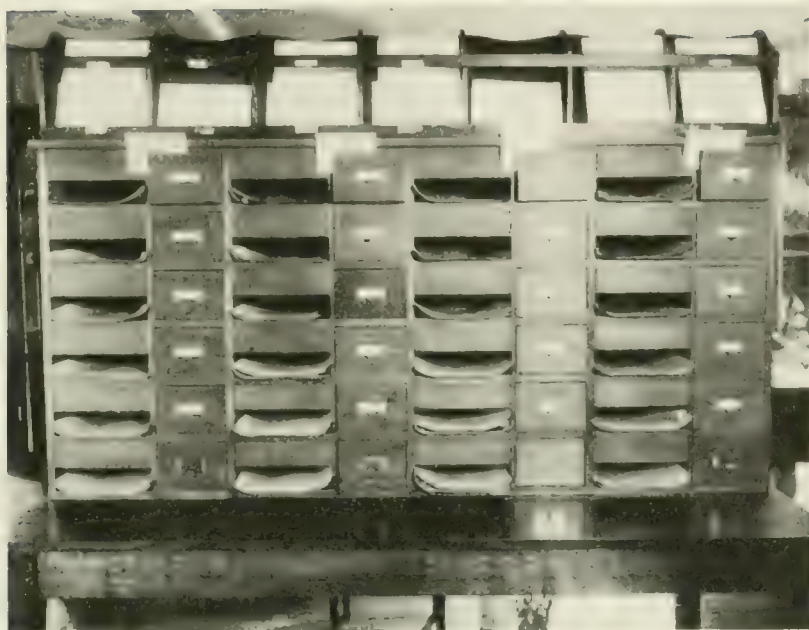


FIG. 4

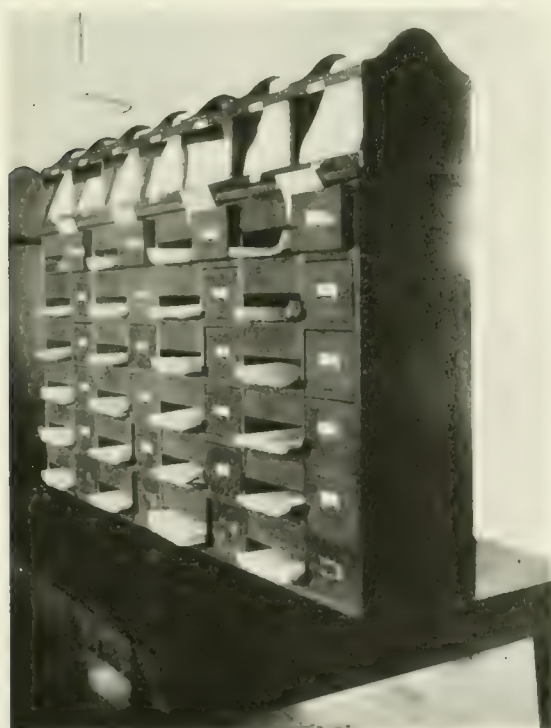


FIG. 5

HOSPITAL STANDARDIZATION AND COMMUNITY CO-OPERATION

NEWTON E. DAVIS, CHICAGO

Corresponding Secretary, The Board of Hospital and Homes of the Methodist Episcopal Church

I APPRECIATE very much the honor conferred upon another representative of the church, to stand by the side of Father Mouliner and speak to you for a few minutes upon the subject assigned, namely: that of "Hospital Standardization and Community Co-operation." I wish, however, before proceeding to the subject to say, that from the standpoint of the entire program of hospitalization in America, all of the hospitals in America owe a debt of gratitude to the American College of Surgeons, especially to the Director General, Dr. Martin and his Associate Director, Dr. MacEachern and their assistants, for the very fine program which they have worked out and put into effect throughout the length and breadth of this great country, and speaking in behalf of the American Protestant Hospital Association as its President, and of those hospitals represented in the group of the Methodist Episcopal Church, I wish to express our heartiest appreciation to the American College of Surgeons for the constructive program which they have placed before the hospitals of this country.

Dr. MacEachern, as the President of the American Hospital Association and the Associate Director of the American College of Surgeons, has done one of the most outstanding pieces of work in the past twelve months that has ever been attempted or done by any man in the whole hospital world, and we appreciate that very much.

Two years ago at Philadelphia, I had the pleasure of speaking before this distinguished body upon the theme of "Hospital Standardization from the Standpoint of the Trustees," and speaking as a layman at that time, I brought to you this thesis: That the main problem before the standardization of the physician and surgeon in the modern hospital is the "standardization of the members of the Boards of Trustees," as the beginning point for real effective standardization in the local hospitals.

This morning I wish to move over to the other section and bring to your attention the standardization from the standpoint of the community at large which is served by the hospital, the physician, the nurses, and all in connection therewith.

The problem before us this morning is one of large extent. It may be reviewed for just a moment in order to get before our minds the picture of what the present American hospital

problem is. There are about 7,000 general hospitals in America, 1,000 general dispensaries, and 3,000 special dispensaries, making a total of 11,000 hospitals and dispensaries. In these institutions there are about 800,000 beds. Eighty per cent of those beds are filled each day, or about 650,000 patients per day. These hospitals represent a monetary value of something over \$3,000,000,000, and there is annually spent in the current expense account of the hospitals in this country about \$1,000,000,000, and added to that amount \$500,000,000, of endowment funds, you will see at once that the monetary value of the whole hospital proposition in America is one of very large extent indeed.

Furthermore, there are in connection with our hospitals about 100,000 graduate and undergraduate nurses, and added to this the 400,000 graduate nurses in service in America at this time, you have practically one-half million women who are employed in the various departments of our hospital work. Add to that another million of employees and helpers of semi-official character in connection with the hospitals, and you have the largest group in America that has to deal with the whole problem of public health and the economical, as well as sociological, aspects of our health problem.

Having said this, I wish to proceed with this further statement: That from the standpoint of the community that pays the bill, as different from our good friends in New Zealand, Australia, England, and other places where the rate is paid by the state and subsidies coming to the hospitals from various sources, that taking this whole situation into consideration, the public that in America today pays the bill has a right to receive results from the hospitals and dispensaries, commensurate at least with the expenditures which they make. We have no right as hospital people, to ask the public to give to us public and trust funds and then not use them for the most efficient service in our institutions. This brings us at once to the interest of the public in this whole matter of hospital standardization.

Twenty-five or thirty years ago, when you and I were much younger in the hospital game, and when our hospital program in this country was for the most part an incidental private problem at the most, there was very little attention paid

to the individual in the hospital as over and against the technique of the institution and the work done by the staff and the training school for nurses. Today that has been largely reversed—not that we have in any way minimized the scientific work which is being done in the hospitals or the work that is being done in the training school for nurses and all of the scientific development of our institutions, but we have come to the place in our hospital program where the patient has some vested and legal rights in the institution. This fact has been set before us by previous speakers today and will be discussed by others in the days that are to come in your convention.

Practically, I have had to deal as a hospital administrator with the problem of establishing hospitals, having had the pleasure of establishing twenty-five hospitals, during the last four years starting from ground up; organizing the board of directors, the staff, establishing the training school for nurses, seeing that the right equipment for the hospital is purchased, and everything of that character. I want to say to you this morning, that following out your policy of standardization, I have at the very beginning of all these hospital organizations said to the local group of physicians and surgeons in the community that “unless you sign up a standardized staff organization and are willing to accept it before we raise a dollar of money, and also sign the anti-fee-splitting pledge, we will not organize a hospital in your community under the Methodist Episcopal Church.”

And I wish to say further that when you put teeth into a thing like that, it counts! I had the pleasure a few weeks ago of organizing a staff in a western state; the hospital will be dedicated soon. To show you a very practical application of what we are doing, all of the physicians and surgeons in three counties were called together. We spent part of two days in going over the details of the staff organization, line by line and precept upon precept, until we had finished to the very last thing. At the close of the staff plans are to be found the words which make up the pledge of the American College of Surgeons relating to the surgeons acceptance of the staff plans and his anti-fee-splitting pledge, and so forth. In meeting this special group of twenty-five or thirty men, I was interested from an outsider's standpoint and from a non-medical standpoint to see what they would do in the signing of that pledge. I knew some of those men had been doubtful as to their ethics. I had made personal investigations throughout those counties from the lay sources

and found out that such was the fact, and I watched to see whether or not they would sign the anti-fee-splitting pledge, and when it came to the doubtful ones, these men waited to the last to see if they could stretch their conscience enough to come across and sign on the dotted line and make good. I noticed they finally came to the table, picked up their anti-fee-splitting pledge and signed it and sat down with the rest of the folks and listened to what I had to say after they had finished their part of the service.

I wish to say to you that it makes one feel pretty good to get every man to sign on the dotted line and thereby say, “We will obey the law,” with the expectation that if they do not, they will not serve very long on the hospital staff. That may seem to be a little rigid and obtuse to some of you who are sitting here this morning, but I desire to say to you, following the words of Father Moulinier this morning, that unless we, who are responsible for the hospitals of the state or of the church, do this, how can we expect the public and community at large to not say to us—“If you do not make good, why should we?” We say to you, “If you can give to us standardized hospitals, we will have staffs and laboratories of the very best kind, so we do not need to send our patients long distances to have good diagnostic service furnished to them; unless you do that, we will not give to you the money with which to build your institutions.” They have a perfect right to do that, and I stand with the community as a representative of one church at least to see that that thing is done.

Now there is a reflex action in this entire program. It is a much easier thing to go out to a community and say to them, “We are going to build a standardized hospital in your community, we are going to put into it registered nurses, establish a training school for nurses that is Grade A, we are going to do everything you want us to do, and then we are going to ask you to support this institution so that at all times it will have the necessary equipment to carry on its particular piece of work.” It is a much easier matter when a man of wealth comes along and asks, “What kind of a hospital have you?” to say to him, “It is a Grade A institution and is an approved hospital under the American College of Surgeons,” and then have him say to us, “All right, inasmuch as you are putting up that kind of a program in our community, and a hospital to which we can look with great respect, you may have my money.” I would much rather have him say that in the beginning than to have him later on come around and cut his check in two and say, “Well, you

did not make good; therefore, you cannot have my money."

The reflex of the community I am sure is very heartening to the surgeons, the physicians, and to the members of the training school for nurses.

May I say in closing, that it is going to be very necessary for the American College of Surgeons, the American Medical Association, and all of the hospital groups in the country, for the next ten or fifteen years to keep on with an educational propaganda in order to have the community thoroughly understand that the thing we are trying to do is to save human life, cut down the death rate, make diseases less prevalent, make it impossible for folks to live in our community who are diseased and keep on spreading their disease germs—to have that kind of propaganda go on is worth our while, and if it costs \$10,000,000 to do it, let us spend the \$10,000,000 and save \$100,000,000 in economic loss!

It has been figured out by those who are responsible for the hospital work of this country that last year the economic loss from disease was practically \$4,000,000,000. That is one-sixth

of the total national debt. If, from disease and the accidents that befall us, this great economic loss is facing us all of the time, then in the name of National Health Evangelism and from the standpoint of our laboratory service, staff organizations and our hospital standardization, and of everything that is for the very best, let us carry on an effective educational propaganda with the proper literature, and place before the public the spirit of the men and the women who today in our hospital boards of directors, medical staffs, training school for nurses and in our various allied institutions, are trying to get over to the American people, a message that will stand for the very best of health conditions and hospital efficiency.

I trust that this great organization may redouble its efforts during the coming year to carry on the propaganda that will help us in the succeeding years to accomplish the objectives in hospital standardization and that all hospitals will meet the minimum hospital requirements in time, so that we will be enabled to say to the communities which are operating with us, "We have done our best; you kindly help us in doing your part to the fullest of your ability!"

THE LEGAL RESPONSIBILITY OF HOSPITALS¹

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I

THE LEGAL STATUS OF HOSPITALS—DETERMINATION OF CHARITABLE ASPECT POWERS—PUBLIC HOSPITALS—PRIVATE PROFIT HOSPITALS—RAILROAD HOSPITALS.

MODERN hospitals are in most instances, from the legal standpoint, corporations, taking their legal existence either from special acts of the legislature creating a particular institution or from the general corporation laws of their particular state, although it is not necessary that they be organized in corporate form. They often exist by virtue of trust agreements or trusts created by will or as simple associations. Particularly in the case of private hospitals, they may exist merely as enterprises wherein the property and equipment is owned by an individual and

operated by his agents and servants. Hospitals fall largely into two general types, so far as their legal classification is concerned: public hospitals and private hospitals. The former are those conducted by officers and agents of the state or of municipal corporations, such as counties and cities, state mental hospitals being typical of this class. This type of hospital is a direct instrumentality of the governmental unit by which it is conducted, and exercises what is known under the law as a governmental function. Private hospitals embody all of those which are not public, as above defined, and themselves fall into two classes, the first comprising those which are operated for private profit, and the second comprising charitable institutions, operated without purpose of profit. The latter are in the law commonly called eleemosynary corporations or institutions, the term being taken from the Latin *eleemosynarius*, meaning an almoner. Anciently there was a Lord almoner to the kings of England, a chief officer who received eleemosynarius rents and gifts and in due method distributed them to pious and charitable uses.² The question whether a private

¹ This article is intended merely as a summary or restatement in popular form of the more important principles of law relating to hospitals, together with illustrations of the application of those principles to particular cases. As such, the article makes no claim to originality; and credit for its subject matter, and to some extent for its phrasing, is extended to the Lawyers Co-operative Publishing Company, the West Publishing Company and the American Law Book Company, whose texts, digests and notes, in addition to the published reports of judicial decisions in the various states, have been largely consulted in its preparation.

² The references in the footnotes are to the published reports of the judicial decisions commented upon.

³ Bouvier's Law Dictionary. Revised Edition, 7

hospital is within the gainful or charitable class is determined in the law largely by the charter, articles of incorporation, will, trust agreement or other instrument creating it. If by such instrument a hospital is brought into legal existence for and is devoted to charitable, as distinguished from gainful, purposes, it is as a matter of law a charitable institution. So it has been held by the courts in Massachusetts, Michigan, Nebraska, New York, Ohio, Pennsylvania, Rhode Island, Minnesota, Wyoming, Virginia, Maine and Illinois. The fact that pay patients are received by a hospital does not as such destroy its charitable character at law. The case of *McDonald vs. Massachusetts General Hospital*,¹ decided in Massachusetts in 1876, is a leading case upon this subject. In that case, suit was brought against the hospital by a charity patient who alleged negligence in the setting of his fractured thigh bone by a student in the Harvard Medical School. It was alleged that because patients who were there received were expected to pay according to their circumstances and to the accommodations received, the institution was not legally charitable in nature and that on that account, under rules later discussed, it was liable for the negligence of its servants. The court held, however, that the fact that its funds were supplemented by such amounts as might be received from those who were able to pay did not render it the less a public charity in view of the fact that it was a public charitable institution under the laws of the commonwealth, that it had no capital stock, no provision for making dividends or profits and that whatever it might receive from any source it would hold in trust to be devoted to the object of sustaining the hospital and increasing its benefit to the public. This rule has been generally followed throughout the United States. It has recently been reiterated in Massachusetts² and has been adopted in Wyoming,³ in Ohio,⁴ in New York⁵ and in Minnesota.⁶ It has been held, however, that a charitable hospital cannot receive pay patients to such an extent as will exhaust its accommodations so that it cannot receive and extend hospital service to the usual and ordinary number of indigent patients⁷; and it is to be noted that the rule just above stated, while generally the law, does not have the unanimous support of the courts in all cases. It has been departed from

in suits for negligence in Alabama, Georgia and in Minnesota, the latter state recognizing the general rule but refusing to apply it in the suit of a pay patient for negligence. It is also to be noted that where neither the articles of incorporation nor the constitution adopted by a hospital shows that the purpose of the organization is public charity, its character as such may be ascertained from evidence showing the manner in which it is conducted.⁸ Conversely, if a hospital is organized for gain, the fact that it incidentally does charitable work does not change its character.⁹ In classifying hospitals, railroad hospitals should be mentioned. These are regarded by the courts as charitable or gainful institutions, depending upon whether they are organized as a part of the railroad for charitable benefit to its employees or whether the relationship between the employees and the railroad in respect to the hospital amounts in substance to a business contract for hospital treatment in consideration of deductions from wages. In the latter case, the hospital is classified by the courts as a non-charitable, and in the former as a charitable, institution. This rule has been announced in cases involving it in the Federal Court, and in Arkansas, Indiana, Kentucky, North Carolina, Missouri, Texas and Washington.

The importance of the distinction between public, private charitable, and private-profit hospitals will be appreciated later, when the liability of hospitals for negligence is more particularly discussed.

A hospital corporation, like other corporations recognized by law, has power to own real estate and personal property, unless this be forbidden by the charter or by special statutes, and may sue and be sued.

II

THE CONTRACTUAL LIABILITY OF HOSPITALS

Having, like other institutions recognized by law, the power to enter into and enforce contracts, hospitals are likewise bound themselves by their contracts. This rule applies to all of the classes of hospitals mentioned: public hospitals, private charitable hospitals, private-profit hospitals and railroad hospitals.

III

THE LIABILITY OF HOSPITALS FOR NEGLIGENCE—TO PATIENTS—TO STRANGERS

Public Hospitals: Public hospitals, that is institutions such as state and city hospitals and

¹ 120 Mass., 432.

² *Roosen vs. Peter Bent Brigham Hospital*, 235 Mass., 66.

³ *Bishop Randall Hospital vs. Hartley*, 24 Wyo. 408.

⁴ *O'Brien vs. Physicians Hospital Association*, 96 Ohio State, 1.

⁵ *Schloendorff vs. New York Hospital Society*, 211 New York, 125.

⁶ *Mulliner vs. Evangelischer Synod*, 175 N. W., 699.

⁷ *O'Brien vs. Physicians Hospital Association*, *supra*.

⁸ *O'Brien vs. Physicians Hospital Association*, *supra*.

⁹ *Gitzhoffen vs. Sisters of the Holy Cross Hospital Association*, 32 Utah, 46.

asylums, are ordinarily held immune from liability for mistakes and neglect in the exercise of discretionary powers, whether the suit in which it is sought to hold them liable be brought by patients or by strangers, that is persons other than patients. This is because they are acting in the exercise of what is known in the law as a governmental function. They are discharging the public duty of caring for individual members of society who are incompetent in mind or body, and therefore a rule of law, generally applicable to municipal corporations and public officers discharging a municipal function, by virtue of which they are held immune from liability in suits for negligence, is applied to them. This has been declared in Kansas,¹ where Kansas City was held not liable to an inmate of a pest house for negligence in maintaining the floor of a room in a defective condition whereby he injured his foot; in Illinois,² where the estate of a deceased person failed in a suit against a municipality for negligent treatment during sickness at a mental hospital, resulting in aggravation of the malady of the patient and in death; in Georgia,³ in a suit against the city of Atlanta to recover damages alleged to have been sustained in consequence of being negligently run down by a hospital ambulance in charge of city employees; in Pennsylvania, where amputation of the plaintiff's limb was alleged, in a suit against the city of Philadelphia, to have resulted from the negligent manner of vaccination by a physician in the employ of the Board of Health; and in like situations in Massachusetts, North Carolina, Virginia, Washington and California. Since the basis of this exemption of governmental agencies from liability for wrongs is that the agency is discharging a governmental function, and that what the legislature has itself authorized for the public good, even if it be a detriment to an individual, can not be an actionable wrong, it follows that if a municipality is operating its hospital, not for the protection of society through the care of individuals incompetent in mind or body, but on a business basis, that is for profit, it is not exempt from liability for negligence; because in the conduct of business functions as distinguished from governmental functions, like police protection, fire protection and sanitation, municipalities are placed by the courts upon the same basis in negligence suits as purely private corporations or individuals in business. With respect to the individual officer of a municipality, as distinguished from the municipality itself, or its institution, it is also the

law that he is not personally liable for mistakes or negligence in the performance of such governmental duty as has been discussed, providing he is acting in the exercise of discretion. So it has been held in New York, Mississippi, Iowa and Massachusetts. But if he has been acting in the exercise of a plain, imperative and non-discretionary duty, he is then liable for negligence in the performing of as well as for the non-performance of such a duty. This rule has been announced in California, Connecticut, Illinois, Massachusetts, Oklahoma, Texas and Washington. It seems not yet to have been invoked in particular application to public hospitals, but should situations arise calling for its application it would undoubtedly be applied.

Private Hospitals Operated for Profit: Strictly private hospitals, asylums, sanitariums and the like, which are conducted for monetary gain and which perform no charity, save incidentally, are by unanimous authority of the courts held liable both to patients and to persons other than patients for the negligence of their employees. They are not held as insurers to absolute liability but to the use of such reasonable care and attention for the safety of patients as their mental and physical condition, if known, may require, and to the use in respect to persons other than patients of such reasonable care as a prudent man under like circumstances would exercise. This position has been taken by the courts in North Carolina in one case where a private hospital was held liable in damages because of the wrongful refusal of its proprietor and its employees to permit the plaintiff, its patient, to leave the institution⁴; and in another case where at the suit of a husband a private hospital was compelled to respond in damages for the death of his wife, who went to the hospital with a broken hip and who was, it was alleged, negligently placed by the hospital employees in a room to which the elements had access, so that it was damp and unhealthy, whereby the wife contracted a severe cold, developing into pneumonia and death.⁵ So also the courts have held in West Virginia, where a physician and an X-ray operator in making diagnosis of an injured arm discovered fracture but failed to discover dislocation⁶; in Kentucky and Nebraska, for failure to guard and restrain insane and delirious patients⁷; in Louisiana, for the negligence of a nurse in dropping alcohol, rather than a mild solution prescribed, into a patient's

¹ *Cook vs. Highland Hospital*, 174 S. E. 108.

² *Bailey vs. Long*, 90 S. E., 809.

³ *Jenkins vs. Charleston General Hospital*, 110 S. E., 560.

⁴ *University of Louisville vs. Hancock*, 118 S. W. 122; *Wetzel vs. Omaha Maternity Hospital Association*, 148 N. W., 582.

⁵ *Butler vs. Kansas City*, 133 Pac., 12.

⁶ *Toddison vs. City of Ottawa*, 81 N. E., 827.

⁷ *Watson vs. Atlanta*, 71 S. E., 664.

eye¹; in North Dakota, for the negligence of a nurse in applying a hot water bottle; and in other similar cases in Mississippi, West Virginia and Missouri.

It is of interest to note that the Kentucky case above referred to (*University of Louisville vs. Hammock*) involved a hospital conducted by a university as an adjunct of its medical school. It exacted compensation from patients able to pay but treated others free of charge. The court found, however, that it was conducted not essentially as a charitable institution but substantially for compensation and profit and for the advantages it afforded to students and to professors and thus to increase the profits of the professors operating the college.

Private Charitable Hospitals: There are almost innumerable decisions involving the liability for the negligence of surgeons, nurses, employees, attendants and the like of hospitals organized for charitable purposes. This class of hospitals is by far the largest class, since it comprises ordinarily all of the hospitals operated by churches, religious orders, welfare associations, and benevolent institutions generally. The cases involving the liability of such hospitals may for convenience be divided into two classes: first, those involving the liability of charitable hospitals to persons other than patients, and, second, the liability of charitable hospitals to patients themselves.

With respect to the first class, the great weight of authority holds hospitals liable for the negligent injury of those who do not bear to the hospital the relationship of patient, that is those who are not the beneficiaries of the hospital's charitable purpose. In such suits hospitals are held by the law, as are all other private corporations, and individuals, to the use of due care, that is such care as a prudent person would under like circumstances exercise, and failing in that are compelled to respond in such damages as will fairly compensate the injured person. So the courts have ruled in Nebraska in a case where a plaintiff accompanied, for the purpose of assisting him, a patient to an X-ray examination, and was injured by the negligence of a hospital physician, who so placed electric wires that a short circuit occurred through the plaintiff's body, causing him to fall and break his leg²; in New York where a charitable hospital was held liable for injury caused the plaintiff in collision with the hospital ambulance³; and in Virginia where a person accompanying a sick friend to a hospital was injured by falling into an

elevator shaft negligently left unprotected.⁴ The same rule has been laid down in Minnesota⁵; in Rhode Island⁶; in New Hampshire, at the suit of a pupil nurse for negligence on the part of a hospital and its manager in failing to warn her that a case under her charge was diphtheria, whereby she contracted the disease⁷; and in Texas where a hospital corporation was held liable to a minor servant for failure of the forewoman to instruct as to how to operate a laundry mangle, whereby the servant's hand was drawn between the rollers and injured.⁸ There have been one or two departures by the courts from the majority rule above stated. Thus in Maryland a charitable hospital was held not liable for injuries to a fireman, on the premises in the performance of his duties, received because of a defective fire escape⁹; and in Missouri a hospital was held not liable in a case again involving the negligent injury of an employee in working with an ironing machine or mangle which was out of repair and not properly guarded.¹⁰ These cases proceed upon the theory that a charitable hospital can not be made liable in any event. In Massachusetts it has been held in a suit of a hospital employee injured by the failure of the institution to guard a planing machine that the Workmen's Compensation Act of that state does not by its terms apply to charitable institutions.¹¹ In suits against hospitals by persons other than patients or beneficiaries of the charitable purposes of the institution, not even the exercise of due care in the selection of servants will exonerate them. So it has been held in Rhode Island.¹² This factor of the exercise of due care in the selection of servants will be seen to be of some importance in the class of cases next discussed, that is cases involving the liability of charitable hospitals to patients, or those receiving the benefit of the charitable purposes of the institution, and whether pay patients or not.

With respect to the second class of cases: There are a few jurisdictions which deny the liability of charitable hospitals in all cases where the suit is by a patient. The United States Court for the District of Massachusetts has taken this position in a case where the hospital was held not liable at the suit of a patient for the negligence of

¹ *Hospital of St. Vincent vs. Thompson*, 81 S. E., 113.

² *McInerney vs. St. Luke's Hospital Association of Duluth*, 141 N. W., 837.

³ *Basabo vs. Salvation Army*, 85 Atl., 120.

⁴ *Hewett vs. Women's Hospital Aid Association*, 64 Atl., 190.

⁵ *Hotel Dieu vs. Armendarez*, 210 S. W., 518.

⁶ *Loeffler vs. Sheppard & E. P. Hospital*, 100 Atl., 301.

⁷ *Whittaker vs. St. Luke's Hospital*, 117 S. W., 1189.

⁸ *Zoulanian vs. New England Sanatorium & Benevolent Institution*, 230 Mass., 102.

⁹ *Basabo vs. Salvation Army*, supra.

¹ *Stanley vs. Schumpert*, 41 So., 505.

² *Marble vs. Nicholas Senn Hospital Association of Omaha*, 167 N. W., 208.

³ *Van Ingen vs. Jewish Hospital*, 164 N. Y. S., 812.

a nurse who caused a burn by a hot water bag.¹ The State Court of Massachusetts has taken the same position.² There have been like rulings in Maryland³; in Michigan⁴; in Nebraska and Ohio, in cases involving pay patients⁵; and in Pennsylvania.⁶ The majority rule of the courts is, however, not that charitable hospitals are absolutely free from liability for negligence where the suit is by a patient, but that they are free from liability provided due care has been used by the institution in the selection of the servant or agent whose negligent act or omission is complained of. This, of course, as a practical proposition, exonerates hospitals in most suits by patients, for in the ordinary case hospitals do use reasonable care in the selection of their servants. Nevertheless, the obligation of the hospital, except in a few jurisdictions later to be commented upon, to use due care in the selection of its employees is a rule well to be borne in mind. This will be illustrated later. Several theories have been advanced by the courts to support the immunity of hospitals from liability in negligence suits by patients provided due care has been used in the selection of the agent causing the injury, namely, the theory of public policy, the trust fund theory, and the theory of waiver by acceptance of benefits. The doctrine of public policy is that charitable institutions are inspired and supported by benevolence, and that since they devote their funds to the relief of the sick and the needy, the public welfare requires that they should be encouraged and, therefore, held exempt from liability for the wrongs of employees. It is contended under this theory that to permit liability would discourage those who are charitably inclined, and would end in dissipation of the assets of charitable institutions through damage suits. It has been urged against this view, however, that while the public has an interest in the maintenance of public charities, it has a greater interest in urging all those who undertake the performance of any act, even if it be charitable in nature, to perform it with care; and the public policy doctrine of immunity has not received the unanimous support of the courts. The trust fund theory is that if a charitable or trust fund can be used to compensate injured persons for the negligence of agents or servants of a hospital, the fund will itself be diverted to purposes never intended by the donor or creator of the fund, and that the chari-

table purposes of such donors or creators will therefore be frustrated. That is to say, the donor of such a fund intended it to be used for charity, not for the satisfaction of judgments obtained in damage suits. But this doctrine also has met with disapproval upon the ground that when an institution is created for certain purposes which can not be executed without the exercise of care and skill, it becomes the duty of the institution to exercise care and skill. And it is held under this view that the fact that the institution may be acting gratuitously and that it holds no property of its own, that is, holds none except for application to its charitable purpose, should not exempt it from liability for any neglect of this duty to exercise care and skill, provided it either has funds, or the capacity for acquiring funds, which can be applied to the satisfaction of judgments for damages against it. While it is somewhat difficult to reconcile the many confusing and in some respects apparently conflicting decisions on this topic of the immunity of hospitals for negligence at the suit of patients, the more modern view supported by the better reasoned authorities and dependable commentators is that such immunity is to be based upon what is termed in the law an implied waiver by acceptance of benefits. The theory here is that one who accepts the benefit of a charity enters into a relationship which exempts the benefactor from liability for the negligence of surgeons, employees or agents in administering the charity, provided the benefactor has used due care in selecting such persons. It is sometimes said that in such cases the patient securing and receiving the services of a charity assumes the risk of injury. In a case in Massachusetts, mentioned above,⁷ the court put it thus: "It would be intolerable that a good Samaritan, who takes to his home a wounded stranger for surgical care, should be held personally liable for the negligence of his servant in caring for that stranger. Were the heart and means of that Samaritan so large that he was able, not only to provide for one wounded man, but to establish a hospital for the care of a thousand, it would be no less intolerable that he should be held personally liable for the negligence of his servant in caring for any one of those thousand wounded men. . . . The persons whose money has established this hospital are good Samaritans, perhaps giving less of personal devotion than did he, but, by combining their liberality, thus enabled to deal with suffering on a larger scale. If, in their dealings with their property appropriated to charity, they create a nuisance by themselves or by their servants, if they dig

¹ *Powers vs. Massachusetts Homeopathic Hospital*, 139 Federal, 291.

² *Rosen vs. Peter Bent Brigham Hospital*, *supra*.

³ *Perry vs. Hospital of Refuge*, 63 Md., 29.

⁴ *Dowd vs. Harper Hospital*, 69 N. W., 42.

⁵ *Duncan vs. Nebraska Sanitarium Association*, 147 N. W., 112; *Taylor vs. Protestant Hospital Association*, 96 N. E., 1089.

⁶ *Gable vs. Sisters of St. Francis*, 227 Pa., 254.

⁷ *Powers vs. Massachusetts Homeopathic Hospital*, *supra*.

pitfalls in their grounds and the like, there are strong reasons for holding them liable to outsiders like any other individual or corporation; the purity of their aims may not justify their torts; but, if a suffering man avails himself of their charity, he takes the risk of malpractice, if their charitable agents have been carefully selected."

But whether the language of the cases is that of the public policy theory of exemption, the trust fund theory of exemption, or the waiver of liability through acceptance of benefits theory, the great majority of them hold, as indicated above, that suits by patients, or by beneficiaries of the charitable purposes of a hospital, for negligence in its conduct, fail provided the defendant hospital has exercised due care in the selection of its servants. Such is apparently the law in Wyoming, Massachusetts, Arkansas, Connecticut, Illinois, Iowa, Maine, Maryland, Michigan, Nebraska, Ohio, Pennsylvania, Rhode Island, Tennessee, Washington, Virginia, California, Kentucky, Minnesota, Oregon, Wisconsin, North Carolina, Alabama, and in the Federal Courts. By way of illustration, it has been held in Kentucky that a hospital is not liable to the estate of a deceased person, who, following an operation, fell from a window to her death, as a result of the alleged negligence of the nurses, agents and servants of the hospital in not remaining with the patient while she was laboring under a great nervous strain growing out of the combined effect of her ailment and her operation¹; in Wyoming and Wisconsin it has been held that a hospital is not liable for the alleged negligence of nurses resulting in the burning of a patient by hot water bottles while unconscious in bed from the influence of an anesthetic²; in Arkansas, a suit for damages was brought for the benefit of a widow and next of kin and an estate against a railroad hospital operated for charitable purposes, it being alleged that the injured patient after having suffered a comminuted fracture of the right ankle and fracture and dislocation of the left ankle, was so grossly neglected by the employees of the hospital that as a result of gangrene he died; notwithstanding this it was held that the hospital was not liable, being bound to use only ordinary and reasonable care in the selection of competent and skillful physicians and attendants and not being bound for the negligence or malpractice of physicians carefully selected.³ Again, in Maine, a hospital was exonerated from responsibility for the alleged negligence of nurses whereby a patient fell through a window

and sustained fatal injuries.⁴ In Michigan, a charitable corporation for the care of the insane was held not liable for the death of an inmate who, it was alleged, was while violent left unguarded and the window of whose room was left insecurely fastened so that he pulled down the iron work and grating from the window and threw himself therefrom.⁵ In Nebraska a charitable institution was held not liable for the suicide of an insane patient due, according to the allegations of the plaintiff's complaint, to the neglect of the defendant's nurses in leaving the patient alone⁶; and in Ohio a defendant charitable hospital was held not liable for the alleged negligence of a nurse in failing to keep the proper count of sponges used in an abdominal operation whereby one was left in the body of the patient and death thereby caused.⁷

The fact that a patient is a pay patient does not ordinarily alter this rule of immunity, if the hospital is a charitable institution, as above defined. This is the weight of authority according to the ruling of numerous courts which have expressly passed upon the proposition. One of the most recent decisions on this topic is by a Massachusetts court.⁸ In that case it was alleged that a pay patient came to her death, during convalescence from a surgical operation, through the negligent administration by incompetent servants of corrosive sublimate kept in close proximity to Epsom salts, and it was urged that because the hospital received compensation from some of its patients it should be held liable. The court held that neither the fact that some patients or the particular patient paid the hospital altered its charitable character or made it responsible for the negligence of its servants, since all such payments were devoted exclusively to charitable uses and not to private gain. An Ohio court, in a case mentioned above,⁹ pointed out with respect to this question, quoting from the opinion of the court in another case,¹⁰ that "the fact that its (the hospital's) funds are supplemented by such amounts as it may receive from those who are able to pay wholly or partly for the accommodation they receive does not render it the less a public charity. All sums thus obtained are held upon the same trust as those which are the gifts of pure benevolence. . . . The liability of the defendant corporation

¹ *Jensen vs. Maine Eye & Ear Infirmary*, 78 Atl., 898.

² *Downs vs. Harper Hospital*, supra.

³ *Duncan vs. Nebraska Sanitarium Benevolent Association*, 137 N. W., 1120.

⁴ *Taylor vs. Protestant Hospital Association*, supra.

⁵ *Roosen vs. Peter Bent Brigham Hospital*, supra.

⁶ *Taylor vs. Protestant Hospital Association*, supra.

⁷ *McDonald vs. Massachusetts General Hospital*, supra.

¹ *Cook vs. John N. Norton Memorial Infirmary*, 202 S. W., 874.

² *Bishop Randall Hospital vs. Hartley*, 160 Pac., 486; *Morrison vs. Henke*, 160 N. W., 173.

³ *Arkansas Midland Railroad Co. vs. Pearson*, 135 S. W., 917.

can extend no further than this: If there has been no neglect on the part of those who administer the trust and control its management, and if due care has been used by them in the selection of their inferior agents, even if injury has occurred by the negligence of such agents, it cannot be made responsible. The funds entrusted to it are not to be diminished by such casualties, if those immediately controlling them have done their true duty in reference to those who have sought to obtain the benefit of them." In another case mentioned above, in the United States District Court for Massachusetts¹ the plaintiff was a pay patient and it was contended in her behalf that, being a pay patient, the hospital was liable because she was not the recipient of its charity, but the court denied the relief sought saying: "In our opinion a paying patient in the defendant hospital as well as a non-paying patient seeks and receives the services of a public charity." It is to be noted that to hold that pay patients could recover for the negligence of hospital servants carefully selected, but that non-pay patients could not, would in effect be to hold hospitals to a higher degree of care in respect to the well-to-do than in respect to the poor. This would be an intolerable rule creating such inequality in the law in respect to duty towards the poor and the rich as should not be countenanced in any just system of jurisprudence. Nevertheless, there are one or two jurisdictions which, perhaps not appreciating this consequence, have recognized a distinction between suits by pay and non-pay patients. Thus in Alabama a hospital was held liable in an action by a pay patient for injuries caused by the negligence of an attendant in scalding her while under an anesthetic, the court taking the position that since the patient had agreed to pay a reasonable compensation for the services rendered, she had depended upon no charity, but had dealt at arms' length with the hospital and should stand in as favorable a position in relation to it as a stranger.² Again, a Georgia court has held a hospital liable for the negligence of an employee at the suit of a pay patient, but it qualified the liability by declaring that the judgment in favor of the injured person could only be applied to funds derived strictly from noncharitable pay patients, and that the funds in trust for charitable purposes could not be subjected to the judgment unless it was alleged and shown that the corporation had failed to exercise ordinary care in the selection and retention of its officers and employees.³ The Georgia

court had previously ruled that charitable institutions are liable for the wrongs of their agents the same as private business corporations if they have any property or are in receipt of any income, not exclusively donated to public charity, out of which a judgment against them can be satisfied, and under such a doctrine had held a hospital responsible in damages for wrongful mutilation of the corpse of a charity patient "to satisfy," as was alleged, "professional curiosity."⁴

As indicated above, hospitals should bear in mind that substantially all of the cases holding charitable hospitals immune from liability require as a basis for that immunity due care in the selection of the servants whose act or omission is complained of. This rule should in most jurisdictions be borne in mind not only in making the selection of nurses, attendants and internes, but of staff members, for if the relationship of master and servant exists between the hospital and a physician or surgeon, failure of the hospital to use due care in the selection of a staff member may result in liability, if the incompetency of such staff member causes injury to a patient. Nearly all of the cases referred to above under the subject of non-liability of a charitable hospital to patients are predicated upon the proposition that due care has been used by the hospital in the selection of the physician, surgeon, nurse or attendant whose alleged negligence caused the injury complained of, and this rule is so well recognized, save in one or two jurisdictions commented upon below, that it would be idle to do more than state it. It may be of interest, however, to note one or two cases where the breach of the rule has been followed by imposition of liability upon a hospital. For example, in Texas, the Sister in charge of a ward selected a kitchen girl, about twelve years old, to place a hot water bottle in the bed of a patient under an anesthetic. The patient was severely burned, and the hospital held liable.⁵ In an interesting case in Rhode Island, the plaintiff, who had had two fingers of his right hand accidentally sawed off in a lumber yard, was taken to the hospital, where the superintendent committed him to the care of a surgical interne who etherized him and undertook to dress the wound. A profuse hemorrhage occurred, due, it was alleged, to the negligence of the interne; after repeatedly trying to arrest the hemorrhage by ligating the arteries, the interne applied a tourniquet to plaintiff's arm and kept it applied for nearly 17 hours, so that the arm ultimately had to be amputated. The court held that the superintendent was guilty of negli-

¹ *Powers v. Massachusetts Homoeopathic Hospital*, supra.

² *Tucker vs. Mobile Infirmary Association*, 68 So., 4.

³ *Morton v. Savannah Hospital*, 218 S. E., 887.

⁴ *Georgia vs. Rushing*, 57 S. E., 1083.

⁵ *St. Paul's Sanitarium vs. Williamson*, 164 S. W., 36.

gence in selecting the interne for this type of surgical work, and that the hospital was therefore liable in damages.¹ There are two states, however, which depart from the great weight of authority in respect to this phase of the law, to-wit: Massachusetts and New York. In the latter state, in a case as recent as 1923,² the action was against Cornell University by a student of agriculture, injured by an explosion of chemicals in a laboratory, and the complaint alleged negligence on the part of the defendant in not placing competent persons in charge of dispensing chemicals from the stock room, and in not making proper tests of the chemicals before permitting their use by students. The court following the rule previously announced in Massachusetts in respect to this subject³ declared the law of New York to be that a charitable corporation is not liable for injury to a beneficiary for the negligence either of its managing officers in selecting incompetent servants and employees or of servants and employees selected with care. This it will be noted apparently places New York and Massachusetts in the category of jurisdictions which hold charitable institutions wholly immune in suits for negligence by beneficiaries of the charity. The New York case, of course, does not on its own facts involve a hospital, but there seems little doubt but that this rule will be applied by the New York courts to hospitals as well as to educational institutions, the legal principles involved being the same,—that is to say, a student being in much the same sense a beneficiary of a charitable educational corporation as a patient is of a charitable hospital.

While, as stated above, the duty to use due care in selecting those who stand in the relationship of master and servant to the hospital is ordinarily as necessary to be borne in mind in respect to physicians and surgeons as in respect to nurses, attendants and other employees, it should be noted that some courts have held otherwise. Thus in New York a suit was brought against a hospital for an operation alleged to have been performed by the house physician and a visiting physician, without the consent of the patient, and in that case the court took the position that ordinarily the relation between the hospital and its physicians is not that of master and servant; that the hospital does not undertake to act through them, but merely to procure them to act upon their own responsibility; that the power of the corporation to dismiss physicians is not the

result of their being its servants, but because of its control of the hospital where their services are rendered; that the physicians would themselves not recognize the right of the corporation which retains them to direct them in their treatment of patients; that they are professional men employed by the corporation to exercise their professional ability to the best of their efforts, according to their own discretion, but that in exercising it they are in no way under the orders, or bound to obey the directions, of the corporation. Indeed, this court extended the same reasoning to nurses, saying that they are employed by the hospital to carry out the orders of the physicians, to whose authority they are subject. But the court held that superintendents, assistant superintendents, orderlies and other members of the administrative staff are servants of the hospital.⁴ The same position with respect to the relation of physicians and surgeons to the hospital was taken in another case in New York,⁵ and has been taken in Rhode Island.⁶ In a case in Alabama, an infirmary was sued jointly with a surgeon and charged with wrongful amputation of one of the patient's legs and negligent treatment making amputation necessary. The court there found under the undisputed evidence that the individual defendant was under independent employment by the plaintiff, and not the agent of the infirmary corporation defendant in treating or operating upon her, and therefore exonerated the corporation itself, though the individual defendant was held liable.⁷ In Arkansas it was recently held that the proprietors of a hospital were not liable for negligent overexposure of a patient under X-ray treatment, the basis of the decision being that the X-ray specialist, though working at the hospital in the X-ray department, equipped by the proprietors of the hospital, was not under their control as to the manner and method of using the X-ray apparatus, and did not bear to them the relationship of servant so as to make them liable for her neglect.⁸

IV

DISCRETION OF HOSPITALS IN THE SELECTION OF STAFF AND ADMISSION OF PATIENTS

The points suggested under this topic have apparently rarely been presented for judicial decision, as a somewhat careful scrutiny of the authorities indicates only about half a dozen cases

¹ Glavin vs. Rhode Island Hospital, 12 R. I., 411.

² Hamberger vs. Cornell University, 199 N. Y. S., 369.

³ Roosen vs. Peter Bent Brigham Hospital, *supra*.

⁴ Schloendorff vs. Society of New York Hospital, 105 N. E., 92.

⁵ Butler vs. Lincoln Hospital, 155 N. Y. S., 1501.

⁶ Glavin vs. Rhode Island Hospital, *supra*.

⁷ Barfield vs. South Hylands Infirmary, 68 So., 3.

⁸ Runyon vs. Goodrum, 228 S. W., 307.

in point. It would seem to follow, however, from general principles of law, that the internal management of a hospital corporation, like that of corporations in general, will rarely be interfered with by the courts, interference in reference to corporations in general ordinarily being limited to cases of abuse of power of directors through fraud, duress or the like, or to cases involving ultra vires acts—acts beyond the lawful powers conferred upon the directors by law and the charter, articles of incorporation, or constitution of the corporation involved. Where the directors of a corporation remain within their powers and exercise good faith, discretionary acts on their part are rarely disturbed by the courts. The few cases that have been decided on this topic in relation to the management of hospitals seem to reflect the general principles just stated.

The case of *McDonald vs. Massachusetts General Hospital*,¹ decided in 1876, referred to above in other connections, incidentally involved the points now under discussion. It was a case, as has been pointed out, where a plaintiff sought unsuccessfully to hold the hospital for the alleged negligence of a house physician in setting his fractured thigh bone. In discussing the question of the liability of charitable corporations in suits for negligence, the court commented as follows: "Nor does the fact that the trustees, through their agents, are themselves to determine who are to be the immediate objects of the charity, and that no person has individually a right to demand admission to its benefits alter its (the hospital's) character. All can not participate in its benefits; the trustees are those to whom is confided the duty of selecting those who shall enjoy them and prescribing the terms upon which they shall do so. If this trust is abused the trustees are under the superintending power of this court of equity by virtue of its authority to correct all such abuse, and the interest of the public therein, that is to say of the indefinite objects of the charity, may be represented by the Attorney General." Thus in an early case, it is at least implied that in the absence of abuse of their powers the trustees of a charitable hospital may prescribe what persons shall be admitted to its benefits and the conditions upon which they shall be so admitted. In *Denver and Rio Grande Railroad Company Employees Relief Association vs. Rishmiller*,² decided by the Supreme Court of Colorado in 1919, it was held that the articles of incorporation of a charitable railroad hospital organized principally for employees were so broadly phrased as to forbid

judicial interference with the discretionary action of the board of trustees in admitting non-employee patients who paid for their own care and treatment, provided their admission did not interfere with the care and treatment of employees. On the other hand, in the case of *Stevens vs. Emergency Hospital of Easton*,³ in the Supreme Court of Maryland in 1923 it was held (again illustrating the importance of the articles of incorporation or constitution, and by-laws, of an institution in determining questions of internal management, such as the admission of patients and the appointment, or removal, of staff members), that where the articles of incorporation and by-laws were so narrowly drawn as to name a definite group of persons, including the plaintiff, as the staff of the hospital, the plaintiff could not be excluded from operating in the hospital in the absence of a valid amendment of the articles and by-laws. In 1923 there arose in the Supreme Court of Wisconsin the case of *State ex. rel. Wolfe vs. LaCrosse Lutheran Hospital Association*,⁴ wherein an attempt was made in mandamus proceedings (proceedings to compel the performance of an act which the law specially enjoins as a duty resulting from some office, trust or station) in behalf of the real parties in interest in the suit (the action being brought in the name of the state but actually for the benefit of the persons seeking reinstatement) to compel their reinstatement as members of the medical staff of the defendant hospital association. This hospital, in conformity with the movement initiated by the American College of Surgeons to standardize hospital service, and by virtue of the authority of the articles of incorporation, caused to be formed an organization known as the attending staff, which included the plaintiffs, and adopted a constitution and by-laws for the government of this staff. The constitution and by-laws provided that vacancies should be filled and additional appointments made by the board of directors upon recommendation of the attending staff; all members of the staff were required to subscribe to an anti-fee division pledge; and it was by a rule declared that unprofessional conduct should be a cause for expulsion, and that any member against whom charges were preferred should be notified of the charges and granted a hearing in his own defense and that a three-fourths vote of the staff should be necessary to recommend expulsion. The plaintiffs alleged that they had strictly complied with the constitution and by-laws, that no charge of unprofessional conduct was ever preferred against

¹ 120 Mass., 142.

² 171 Pac., 501.

³ 121 Atl., 475.

⁴ 193 N.W., 194.

them, that they were never expelled as members of the staff, and that they continued to practice medicine and surgery in the hospital until a certain date, when the hospital association denied admittance to one of their patients, the superintendent stating that the governing board, that is the board of directors, had decided that they were no longer to be permitted to practice in the hospital, and that any patients presented by them for treatment should be denied admission. But the articles of incorporation of this hospital themselves provided that the board of directors or trustees should have power to adopt and enforce reasonable rules, regulations and by-laws. The court held that the board of directors of the corporation had full power to exclude physicians from practicing in the hospital, that the by-laws referred to above, providing for notice and hearing and a three-fourths vote of the staff as necessary to recommend expulsion, merely operated to give to the members of the attending staff a voice in the matter and to clothe them with ordinary powers; that while under these by-laws the staff might recommend, the directors might still do as they pleased about expelling, and might expel without recommendation from the staff; that the power of expulsion was a power lodged in them by the articles of incorporation, and a power which could not lawfully be delegated. The court pointed out that the result of the contention of the plaintiffs, that they could not be expelled without notice and a hearing and a three-fourths vote of the attending staff, would be to place it within the power of those originally constituting the attending staff to determine who should practice in the hospital, an important part of the management of the institution, and the court stated definitely that the power to manage the affairs of the corporation included the power to exclude physicians from the privilege of practicing therein, and that the state in an action of mandamus could not interfere with this power. This is an important case on this subject. It is to be noted, however, that it does not pass upon the question whether the plaintiffs had some contractual right against the hospital. If the hospital had validly contracted, either expressly or impliedly, to continue the plaintiffs as members of the staff, and had without cause broken such a contract, the plaintiffs would then be given remedy in a court of law for any provable damages flowing from such a breach. The most recent case upon this subject is *Van Kempen vs. Olean General Hospital*,¹ decided by the Appellate Division of the New York courts in July, 1924.

In that case the plaintiff, a practicing physician, was dropped from the visiting staff of the defendant hospital by its board of directors, without a hearing, after a dispute between the plaintiff and the hospital. A finding of fact made in the case was, "that differences arose between plaintiff and the persons in charge of the defendant hospital and that plaintiff made complaint against the management of the hospital in certain respects, and the hospital authorities made complaint against the plaintiff in respect to his failure to obey the rules and regulations of the hospital, and that such disagreements tended to and did interfere with the harmony, discipline and orderly conduct and management of the hospital." The plaintiff was not denied the right to visit patients already in the hospital or those who asked for his attendance professionally. He sought relief from interference with his claimed right to practice as a member of the staff of the hospital for compensation. The by-laws of the hospital corporation provided that if the board of directors determined that the character, conduct or acts of any member of the medical staff were such as to interfere with the orderly conduct of the hospital, the board might by resolution remove or suspend him. There was no provision in the by-laws for a hearing prior to removal or suspension. The court held that the plaintiff was not entitled to compel the hospital to permit him to use its property or to reinstate him upon the staff. It took the position that the selection and retention of physicians to treat patients admitted to the hospital are matters of judgment and discipline, and that the power to appoint usually implies the authority to remove; that the management of such corporations is given, by the laws of New York, to the board of directors, and that the directors being thus charged with the duty to act for the corporation according to their best judgment, can not be controlled in the reasonable exercise and performance of such duties; that the directors have a wide discretion in determining policies and that its exercise in a given matter is not subject to review by the courts unless there is clearly an error in the performance of a legal duty; that courts of equity will not attempt to correct errors of judgment on the part of the directors for in the absence of fraud or bad faith the courts have nothing to do with the internal management of corporations, if such management be kept within corporate powers. The corporation in this case was a private charitable corporation, and the court said in particular respect to it, but also in application to public hospitals in New York: "The law does not require a corporation like defendant to furnish

¹210 App. Div. N. Y., 204

its services and accommodations to everyone who applies, whether patient or physician. There can be no absolute right in individuals to claim the benefit of its privileges; such a thing would be impossible. There must be discretion vested in the management to make selection from applicants with regard to accommodations available. It may reject one who has some trivial ailment, and accept another whose needs are greater. This is not a legal discrimination depriving a person of his rights; nor do we deem it such discrimination if from a large number of physicians it selects members of its visiting staff with regard not only to their medical skill but to their adaptability to the rules and discipline of the institution." This New York case cites an additional decision upon this same subject, that of *Harrison vs. Thomas, et al.*,¹ in Texas in 1920, wherein an attempt was made by a physician to compel the Congregation of Sisters of Charity of the Incarnate Word and certain of its agents and representatives, in control of a sanitarium, to permit the plaintiff to continue practice therein. The court held that the sanitarium was a voluntary association, and that as such it had power to enact laws governing the admission of members, that membership was a privilege which the society might accord or withhold, at its pleasure, and with which a court of equity would not interfere, even though the arbitrary rejection of a candidate might prejudice his material interest.

The plaintiff in this case was an osteopath, not a member of the county medical society, and was excluded by the Mother Superior not because of personal objections or unkind feelings, but because of her desire to have an organized hospital staff and to have her staff composed of regular physicians and members of the county medical association.

It would appear from the principles set forth above that if charitable hospitals desire to avoid difficulties in changing the personnel of the staff, or in denying admission to patients and physicians deemed unsuitable, they may do so by giving full authority to the directors, through the articles of incorporation or constitution and by-laws or such other instruments as define the legal powers of the institution, to determine at their own discretion the personnel of the hospital staff and the admission of patients, and by refraining from entering into, either expressly or by conduct, contracts for service with staff members giving the latter permanent rights or depriving the hospital of the right to terminate staff service at its own pleasure.

V

HOSPITAL RECORDS AS EVIDENCE—
CONFIDENTIAL COMMUNICATIONS

In view of the modern practice of making and keeping detailed case records by hospitals, it is of interest to comment briefly upon the law relating to the use of such records in evidence in the trial of law suits, such for example as actions for personal injury, for the cancellation of life insurance policies upon the ground of misrepresentation of physical condition, for the annulment of marriage upon the ground of insanity, and the like. Without going into great detail, it may be commented that generally hospital records are held not to be admissible in evidence, upon the ground that they are confidential communications between physician and patient. This rule is in most instances a salutary protection of the relation between physician and patient, enabling the physician on the one hand to obtain, and the patient on the other hand to give, a full and intimate statement of personal symptoms, personal history, and the like, without fear of such disclosure becoming known to others. While the rule in some instances seems, of course, to result in the suppression of necessary evidence, it is conceived by the courts and law makers that the occasional hardship resulting from suppression of evidence under the rule is greatly overshadowed by the value of the rule to society in protecting the confidential relationship between physician and patient, and thus promoting general scientific relief of human ailments. The same rule of exclusion applies to confidential communications between priest and penitent, lawyer and client, and husband and wife. The operation of the rule may be waived by the beneficiary thereof, the patient, but in the absence of such waiver the rule excludes from evidence not only the hospital records themselves but the testimony of the hospital physician or his associates or others, who obtained the contents of the records from the patient and caused the entries to be made; and the privilege, of course, applies as well to charity patients as to pay patients in a hospital. The rule is restricted to information gained in the performance of professional duty, nearly all of the statutes on the subject requiring that the statements of the patient, in order to be privileged, must be necessary for the performance of a professional duty.

The admissibility of hospital records in evidence has been passed upon in accordance with the above statement of the law by the courts in Missouri,² where the attending physician at a

¹ 217 S. W. 1608.

² *Smart vs. Kansas City, 125 S. W. 255.*

hospital, who was the keeper of the records of the institution, was forbidden to testify as to the diagnosis of a patient's case, as shown by such records; in Minnesota¹ where a register kept of patients in a hospital, naming the disease with which a patient was said to be suffering, was held not admissible in evidence to establish the nature of the disease; in Michigan,² where it was held that the records of a public insane asylum containing information concerning the mental and physical condition of a patient which had been obtained by physicians in their professional character for the purpose of determining the proper treatment, were privileged and not open to inspection as public records. It has been held, however, in New York³ under a statute providing for the maintenance of state hospitals for the indigent

and insane, and making it incumbent on those in charge of asylums to make entries from time to time of the mental condition of the patients, and providing that on hearing of writs of habeas corpus (writs to obtain release) brought by insane persons the medical history of the patient as it appeared in the case book should be given in evidence, that the relation of physician and patient, as defined at law in respect to privileged communications, does not exist between an inmate of an insane asylum and its hospital physician and that therefore the latter's testimony is admissible in an action to annul an inmate's marriage on the ground of insanity. A very recent case in Montana⁴ recognizes that the confidential relationship rule, just discussed, applies to staff physicians of a hospital as well as to the physician specially employed by the patient.

¹Price vs. The Standard Life & Accident Insurance Company, 95 N. W., 1118.

²Massachusetts Mutual Life Insurance Company vs. Board of Trustees of the Michigan Asylum for the Insane, 144 N. W., 538.

³Liske vs. Liske, 136 N. Y. S., 176.

October, 1924.

⁴Garrett vs. The City of Butte, 221 Pac., 537.

AFTERNOON SESSION, 2:00-5:00 P.M.

ERRORS IN SURGICAL DIAGNOSIS, AVOIDABLE AND UNAVOIDABLE— AS SEEN BY THE LABORATORY MAN—A STATISTICAL STUDY OF 5,785 GENERAL SURGICAL CASES

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The purpose of this study is four-fold:

1. To compare—insofar as it applies to general surgery—the diagnoses made before and during the operation with the pathological diagnoses.

2. To find, if possible, the causes for the discrepancies, both avoidable and unavoidable.

3. To make such suggestions for guarding against the avoidable errors as may be warranted by the data here presented.

4. To establish what purpose—if any—the laboratory may serve in surgery. Limitations: a. 5,785 cases selected at random from the hospital as well as private laboratory practice have been studied. b. By far the greater number of the cases analyzed belong to the domain of abdominal and pelvic surgery. c. The entire study is neither an attempt at a sneaky detection nor a partisan polemic—it is just a sincere, straightforward study, for which I may well choose the motto: *Je ne suppose rien, je ne propose rien, j'expose.*

I. INTRODUCTORY

A marvelous metamorphosis has come over the laboratory. Doubtless all of you remember what used to be called—for the sake of euphemism—"The Laboratory." Mention the word "laboratory" and you conjure before you a vision of something dark and misty, a nebulous room as if staged for an Ibsen play, tucked away in the basement, like old discarded clothes; only those who had to go there ever knew of its existence, and such were not numerous. The selection of the room of the laboratory always was a matter of great concern to the hospital authorities. Only a room which could not possibly be used for anything else, not even for the old clothes or some other junk, was regarded as suitable; if, in addition to being of no use for anything else, it combined further advantages of remoteness which bordered upon inaccessibility, an amount of light which could with great extravagance be referred to as dim, and a general appropriate-

ness for the purpose which could be expressed by the most sanguine optimist as zero—why, then, such a room would be regarded as being distinctly eligible. What finally influenced the selection of the room as the place for the laboratory was the opposition of the pathologist; just as soon as he began to protest against the selection, the choice was made—that room became the laboratory; if he approved of the room, it was immediately surmised that the room should be used for something else. The room was tastefully decorated with four walls, ceiling, and a floor; the walls were moldy, the floor warped or chipped (according to whether it had originally been made of wood or cement), and the ceiling cracked (thus, according to some, bearing a striking resemblance to the pathologist); a few cobwebs scattered at random in a very picturesque disorder, gave the room a distinctly bizarre appearance; while the window panes in the state of permanent opacity were responsible for the lighting effect that was both subdued and mellow—the dimming effect was to safeguard the pathologist's eyesight.

Added to this physical foundation there usually was a very touching attitude on the part of the help who looked at the laboratory as one would at a rodent ulcer, seeing in it a mute appeal: "*noli me tangere*"—touch me not; the help understood this appeal and obeyed it with cheerful, complaisant alacrity; in fact their fear of disarranging something in the laboratory was so real that for months at a time they would refrain from all effort which might be interpreted as an attempt at cleaning, thus showing quite a deep-rooted respect for the laboratory motto: "Please do not disturb." This continuous exhibition of civic courage on the part of the help was directly responsible for a peculiar mixture of odors about the place, a veritable symphony of smell with a very elusive "leit motif" of stale urines and "piecifully" decomposing pathological specimens—the entire combination resulting in an aroma which was nothing if not frank and outspoken. The help, both the scientific and the unskilled (the distinction was one without difference) was very carefully selected, and greatest care and judgment were exercised in determining and passing upon their qualifications; no one was ever assigned to the laboratory unless he had been in at least four other departments and failed to be of any use; those who had been in every department and dismissed for incompetence from each and every one of them were given preference; they usually were assigned as scientific assistants on the assumption

that being human they must possess some intellect, and since it was conspicuous by its absence in the work they had done in all other departments, it was evident that they had to be good in the laboratory work.

In complete harmony with the room and its personnel was the equipment; there was that which gave the laboratory its tone—the sink, an old rusty tin affair, with one faucet in the state of *perpetuum immobile*, the other one usually labeled "hot" but pouring forth nothing but dirty, muddy cold water, of which the lack of heat was a fine illustration of Nature's effort at compensation, inasmuch as a fair average was thus struck between the "hot" label and the cold contents of the faucet; but if one could find fault with the flow of the apparatus, one could not help but admire the overflow—it worked like a charm. There was the incubator of the vintage of 1890, quite dismembered and disconnected but which acted as a fairly decent mausoleum for cigarette stubs, a few pieces of paraffine, and a few tempestuously rash cockroaches and thoughtless flies which should have known better; in the better class of laboratories, which were not satisfied with the routine work but craved research, having for their motto: *per aspera ad astra* there usually was a high power hand centrifuge, fully capable of at least 6 revolutions every other minute, with a double holder but no tubes; there was a somber looking affair resembling a hand-driven microtome (it should really have been called macrotome), described in the manufacturer's circular as "neat and compact"—and in many a laboratory it not only "come packed" but usually stayed packed; its size compared very favorably with that of a mature, fully developed howitzer, and its pirate's cutlass was very imposing indeed; its working was interesting since its construction was based not only on the mere coarse physical principle of cutting equally thick tissues, which evenness might become monotonous and boring,—no, indeed, it possessed the finer psychological ability to avoid the drab regularity and never cut two pieces of tissue of the same thickness, thus establishing the truth of the motto which claims that "the variety is the spice of knife." Then, there was the usual Pandora's box of odds and ends—the broken spring lancets whose blades have been sprung, the blood pipettes so hopelessly clogged up that they successfully resisted all emphysematous efforts at dislodging their emboli of unknown etiology, assorted labels which have lost forever their well-known loyal qualities of sticking to their friends and have now become not only

amorously stuck on each other but quite stuck up, besides a choice of several sizes of rubber tubing, one half of which was too large for anything else in the laboratory in order to make up for the other half being too small; there were glass slides cut by a worker who foreshadowed the cubist movement and who would shatter the fame of both Euclid and Poincaré by his conceptions of boundaries, straight lines, and square spaces—one of those geni of the glass cutting trade whose rebellious spirit sneered at rulers of both geography and geometry; these slides, as a rule, were full of some mysterious alchemical spots and withstood prolonged soaking in nitric acid with the same impunity with which our younger generation, under the paternal influence of the omniscient government, has steeled its gastro-intestinal tract against wood alcohol; finally, there were the unrecognizable pieces of machinery—screws, bolts, nuts, and wheels—which had no doubt served, æons ago, some purpose but had now a mute *sic transit gloria mundi* all over them. Yes, I have almost forgotten that cupboard in the right-hand corner which housed “the glassware”; there was as fine a variety of shapes, sizes, and materials as one could ever see in a first-class saloon; true enough, not all glass had been made in Jena, but a goodly part of it was German glass made in such well-known centers as Munich; some of these variegated bottles still contained a yellow liquid, but who can tell what liquids could be found in the laboratory; most of these bottles sent there from the wards retained their original labels which now were very appropriate: “alcoholic content,” 9 per cent, “the finest in America,” “aged in the woods,” “specially imported for Jones & Co.,” “for the select trade,” “pure and wholesome,” “not artificially colored,” etc.

In such atmosphere—stimulating and soothing—was brought the pathologist, the modern Hercules, with truly Herculean tasks set for him, for he not only had to clean up the Augean stables, but he also had to kill the Lernean Hydra of contempt in which he and his ilk were held by his more practical confrères who wanted results and not reasoning, instructions and not interpretations; he had to subdue the fire-breathing oxen of Geryon—the stubborn lack of co-operation on the part of both the hospital and the staff; to secure new equipment, new help, new facilities was no easier than the stealing of the girdle of the Amazon queen; all this has been done by the modern Don Quixote of medicine—the pathologist; and while, not being a clinician, he could not bring home the bacon, he brought the Golden

Apples of Hesperides—the recognition which has superseded the mere tolerance. Under the steady pressure of the American College of Surgeons, the pathologist has been lifted from the basement to the Olympus and set with the *Dei Majores*. True enough, he still feels awkward, he still intercepts an occasional hostile or questioning glance, he at times meets with a patrician shrug and a snub, he still is the poorest member of the staff—one only has to see how much more highly the roentgenological laboratory is thought of than the pathological, simply because the former is and the latter is not a money-making part of the hospital; but *Tempora mutantur, et nos mutamur cum illis*, and the atmosphere is gradually clearing up, a few violaceous streaks are seen in the sky rifts the black gloom, and before long—if the new power that is given him does not go to his head, if he possesses tact and diplomacy, he will have won a permanent and an important position on the hospital staff.

THE PLAN OF THIS STUDY

The main reason why I have chosen the relation of the laboratory to surgical diagnosis is that the value of the laboratory in medicine has received by far a wider recognition than in surgery, to which it still is a sort of a valet or French maid. At first I approached surgical cases much in the same way as I would study medical cases, that is, I would study the clinical diagnosis, then study the autopsy protocol, and then attempt to summarize the reasons for the discrepancies between the two; but before long I realized that it could not be done, that there were marked differences between the two kinds of diagnosis, that additional factors had entered into the study, which had to be recognized and which called for an entirely different method of study. It is obvious that the surgeon has a marked advantage over his medical confrère in that he has two opportunities for making a correct diagnosis—one before and one during the operation (hence the greater certainty of surgical therapeutics). To compare, therefore, in the case of the surgeon the second diagnosis (the one made at operation) with the pathological diagnosis would not be fair to the internist who has but one opportunity to make his diagnosis, yet to compare the surgeon's preoperative diagnosis with the pathological diagnosis would hardly be fair to the surgeon since frequently he has but very little time to study his patient because of the acuteness of the case, and also because his mistake in the preoperative diagnosis does not always do harm—certainly not nearly as much harm as a mistake

at the operation would; I finally decided that I should have to compare both the surgeon's diagnoses with the laboratory diagnosis in order to balance his two opportunities against the internist's one, and this is the plan of the study: All cases were considered from three points of view:

A. Preoperative Diagnosis—made by surgeon before the operation, with or without the laboratory assistance (unless the diagnosis was made by the laboratory, e.g., a roentgenogram of a kidney stone or the finding of bacteria in the fluid obtained by thoracentesis).

B. Intraoperative Diagnosis—made by the surgeon during the operation.

It is at once apparent that A is the criterion of the surgeon's knowledge of clinical diagnosis, while B is the measure of his knowledge of gross pathology.

C. Histopathological Diagnosis—made by the pathologist whenever the tissue is removed. This method of study not only permits a fairer comparison, but serves to bring out several important points: first of all, because of the additional opportunity of making the intraoperative—the gross pathological—diagnosis, the knowledge of gross pathology is even more important to the surgeon than to the internist whose only chance to make a pathological diagnosis is either visualizing or at the autopsy table, when, unfortunately, he diagnoses not "what is," as does the surgeon, but "what once was." I fervently hope that this statement will not be misconstrued and that an impression will not be gained that the surgeon's clinical (preoperative) diagnosis need not be as keen as possible, just because he has an additional opportunity of making a correct or a corrected diagnosis at the operation—goodness knows we already have entirely too many surgeons who are anxious to "open the abdomen and see what it is," and our bulletin boards on which operations are scheduled are bristling with too many "exploratory laparotomies," "tumors of the breast," "acute abdomen," and other probabilities and—worse yet—possibilities. Usually the surgeon who relies too much on his intraoperative diagnosis, possesses neither one nor the other. I merely want to point out that the knowledge of gross anatomy is of particularly great importance to the surgeon because it gives him a chance to correct his incorrect clinical diagnosis and still to institute the correct therapeutics, for after all—with some exception, *qui bene diagnoscit, bene curat*.

I have been broad-minded enough not to consider a diagnosis erroneous merely because the

surgeon, e.g., called a breast tumor a fibroadenoma, and it proved to be a pericanalicular fibroma, or because he called it adeno-carcinoma and it turned out to be a scirrhous carcinoma; this would be absurd, for so long as his diagnosis of a benign or carcinomatous neoplasm is correct, the mere morphological differences are unimportant. *Nihil utile est nisi saluti hominis servit*.

We shall, therefore, consider the following three ratios:

1. $\frac{A}{B}$ That is the preoperative diagnosis compared by the surgeon with the intraoperative diagnosis:
 $\frac{A}{B}$ = What the surgeon thought before the operation.
 $\frac{A}{B}$ = What the surgeon thought during the operation.

In other words $\frac{A}{B}$ shows the percentage of cases which the surgeon claims to have diagnosed correctly, using his own knowledge of pathology as the criterion.

2. $\frac{A}{C}$ That is the preoperative diagnosis compared with the pathological (postoperative) diagnosis made by the pathologist.
 $\frac{A}{C}$ = What the surgeon thought it was before the operation.
 $\frac{A}{C}$ = What the pathologist found it to be.

In other words $\frac{A}{C}$ shows the percentage of cases which the surgeon diagnosed correctly clinically.

3. $\frac{B}{C}$ That is the surgeon's intraoperative diagnosis compared with the pathologist's postoperative diagnosis, and is the true index of the surgeon's knowledge of gross pathology.

It is at once apparent that each one of these three ratios must be considered separately, since they throw light on different aspects of the question, as the following examples may illustrate:

1. The preoperative diagnosis is malignant neoplasm of kidney; that is A. The intraoperative diagnosis B is the same; the postoperative diagnosis (by the pathologist) C is the same;

Therefore $\frac{A}{B}$ = Preoperative (by the surgeon)
 $\frac{A}{B}$ = Intraoperative (by the surgeon)
 is correct, that is the surgeon, at the conclusion of the operation thought he had made a correct diagnosis;

$\frac{A}{C}$ = Preoperative (by the surgeon)

$\frac{A}{C}$ = Postoperative (by the pathologist) is also correct, that is, the surgeon did make a correct clinical diagnosis;

\bar{B} = Interoperative (by the surgeon)

\bar{C} = Postoperative (by the pathologist) is also correct, that is the surgeon's knowledge of gross pathology is correct. Such an example is entirely in the surgeon's favor.

2. The preoperative diagnosis is gastric ulcer, that is A. The interoperative diagnosis is chronic cholecystitis, this is B. The postoperative diagnosis (by the pathologist) is carcinoma of the gall bladder. In this case

B = Interoperative (by the surgeon)

\bar{A} = Preoperative (by the surgeon) is wrong, the surgeon himself agreeing that his diagnosis is incorrect.

A = Preoperative (by the surgeon)

\bar{C} = Postoperative (by the surgeon) is also incorrect, thus showing the clinical diagnosis was also incorrect, and finally,

B = Interoperative (by the surgeon)

\bar{C} = Postoperative (by the pathologist) is wrong, thus making it an incorrect case all around.

The above two examples are quite clear cut, but in the following examples the necessity for the separate examination of the three ratios is clearly demonstrated.

3. The preoperative diagnosis A is cystic ovary; the interoperative diagnosis B is sarcoma of ovary; the postoperative (pathologist's) diagnosis is sarcoma of ovary; in other words:

$\frac{B}{A}$ was wrong, $\frac{C}{A}$ was wrong, but

B = Interoperative by surgeon.

\bar{C} = Postoperative by pathologist, was correct (thus showing that in that particular case the surgeon's knowledge of gross pathology was better than his clinical diagnosis); were the preoperative and the postoperative diagnosis regarded as one, the case would be in favor of the surgeon, which is obviously unfair, as he only diagnosed the organ; on the other hand, to regard this case as an absolutely incorrect diagnosis is equally impossible since, after all, the patient came to no harm, and the surgeon, during the operation, made the correct diagnosis; it is better, therefore, to examine the values of $\frac{B}{A}$, $\frac{C}{A}$, and $\frac{C}{B}$ separately.

4. Preoperative diagnosis A is sarcoma of ovary, interoperative diagnosis B is sarcoma of ovary, postoperative diagnosis C is fibroma of

ovary; here $\frac{B}{A}$ is correct, that is, the surgeon thought he had made a correct diagnosis but both $\frac{C}{A}$ and $\frac{C}{B}$ are wrong; this is much more serious than the previous mistake because in this example probably a falsely optimistic prognosis was made by the surgeon. This example also shows how necessary it is to have a pathological examination made routinely before the surgeon's pathological diagnosis can be accepted as a check on his clinical diagnosis. At the end of our study planned as outlined above we shall determine the following:

1. In what percentage of cases the surgeons thought they had made correct and incorrect diagnoses.

2. In what percentage of cases they actually had made correct and incorrect diagnoses.

3. In what percentage of cases they made correct but incomplete diagnoses.

4. In what percentage of cases clinically correct diagnoses were made.

5. In what percentage of cases pathologically correct diagnoses were made.

II. ANALYSIS OF THE CASES STUDIED

*Ihr durchstudiert die gross und kleine Welt,
Um es am Ende gehn zu lassen,
Wie's Gott gefaellt.* —Goethe: Faust

The detailed analytical data are in the self-explanatory tables presented above.

We see that out of 5,785 cases the correct clinical or preoperative correct diagnosis was made in 59 per cent of cases; the correct pathological or interoperative diagnosis was made in 79 per cent of cases.

MISTAKES MADE IN DIAGNOSIS OF:

I. APPENDIX¹

Acute catarrhal appendicitis was diagnosed in the presence of chronic appendicitis, acute suppurative appendicitis, Meckel's diverticulum, perisigmoiditis, acute salpingitis, tabes mesenterica, ruptured tubal pregnancy, fecal impactions, volvulus and intussusception, carcinoma of appendix, tuberculosis of peritoneum and appendix, mucocele of appendix, acute cholecystitis, gall-stone colic, renal stone colic, pyelitis, torsion of ovarian cyst, pneumonia, typhoid fever, pelvic peritonitis, subphrenic abscess, acute pancreatitis, and many other conditions; acute suppurative appendicitis shared a similar fate.

¹ Needless to say, "prophylactically" removed appendices have not been considered in this paper.

I have found that 48 of these cases had had insufficient laboratory work—quantitatively or qualitatively; e.g., some patients had no leucocyte count; in others, it was of no significance and a differential count was neglected; in other cases when some of the symptoms pointed to the possibility of pneumonia or typhoid, neither blood cultures nor Widal tests were made, as the case was regarded an emergency, and there was no time “for frills.” In quite a few cases, especially the so-called “emergency” appendicitis, no laboratory work was done at all, the patient being hurried into the operating room, the abdomen opened and an inoffensive appendix—a perfect anatomical specimen or a chronic shrunken pitiful looking affair—solemnly delivered amidst a hushed silence of sleepy nurses and yawning internes.

The chronic appendicitis was diagnosed erroneously 57 times, and the following conditions were encountered: absolutely normal appendix, suppurative appendicitis, practically all of the lesions mentioned in connection with acute appendicitis as well as gastric and duodenal ulcers, chronic cholecystitis, cholelithiasis, etc. In at least 50 per cent of these cases the diagnosis seems to have been based either on intermittent pain and tenderness in the right lower quadrant or on some vague “run down” condition. Very little effort was made to eliminate other conditions, particularly in cases which offer the most difficulty in the differential diagnosis—viz: chronic gastric and duodenal ulcer, cholecystitis and cholelithiasis, yet it seems to me (probably because I am not a surgeon) that such cases would be the very ones in which gastric and duodenal contents analysis, roentgenograms, Lyons’ test, blood work, etc., would be done. Yet, less laboratory work is done in these cases than in the acute cases—in proportion to the opportunity and the time available for such studies. Why? Why does the surgeon cheerfully fall into the path *minoris resistentiae*? Does he not realize that with a careless or a hurried diagnosis in acute cases justified by “well, it is an acute abdomen, anyway, no use dilly-dallying,” and a similarly incomplete study of “chronic appendix” cases because “well, it is a chronic abdomen that needs opening up”—why, what are the cases for study? I begin to feel like a little girl who naively asked a spinster lady, after she had been informed that the latter had neither little boys nor little girls, “What are yours?” Acute cases need but little diagnosis because they are acute, the chronic ones ditto because they are chronic. Before long we will hang up a sign in the surgical diag-

nostic room, with the famous line copied from Dante’s *Inferno*: *Lasciate ogni speranza, voi ch’entrate*—at least so far as a correct diagnosis is concerned.

However, I shall discuss this more fully in the summary of this paper. I want to add here that it is while studying the cases of chronic appendicitis that one encounters most of the incomplete diagnoses—that is, the cases in which other organs are found to be involved; apparently the appendix which Sahli has very aptly called “the abdominal tonsil” begins to share all of the vicissitudes of the tonsil.

2. FALLOPIAN TUBES

The only preoperative diagnosis made in the cases of the tubes are pyosalpinx and ectopic pregnancy—the other lesions such as acute or chronic catarrhal salpingitis, tumors and tuberculosis being usually encountered after the opening of hostilities—I mean, of the abdomen. The time honored “D. and C. and Lap.” seems to be the prevalent mode of approaching these problems. Still, I dare say, the correct diagnosis is made much more frequently in cases of salpingitis than in those of appendicitis because of more definite histories and greater accessibility of the organ to physical examination.

3. OVARIES

The cases of acute and chronic oöphoritis, like those of salpingitis, are not frequently diagnosed, most of the correct diagnoses being made in cases of ovarian abscess and cysts. The most mistakes were made in assuming a simple cystadenoma when there was a malignant cyst; ovarian tuberculosis, carcinoma, sarcoma, and fibroma were not recognized preoperatively, and neither were any of the “chocolate cysts.” It seems that most of the errors in diagnosis were unavoidable since many lesions are too small to elicit any definite symptoms or objective findings.

4. UTERUS

On the whole, the diseases of the uterus show a greater percentage of correct diagnosis than those of any other organ. There are several obvious reasons for it: the frequency of uterine diseases, the accessibility of the organ to physical examination which gives almost as much information as the interoperative examination, and, finally, the comparative lack of variety of uterine diseases—carcinoma, myofibroma, and endometritis constituting about 95 per cent of them. Much more knowledge of the gross pathology of the uterus seems to exist among the surgeons

whose cases are analyzed in this paper than of any other organ.

5. BREAST

Accessible as the breast is to physical examination, the clinical diagnosis seems to fail in about 30 per cent of cases; the uncertainty that exists in the diagnosis of breast tumors is not only reflected but is accentuated in the treatment; it must be said that whoever invented the dictum that it is better to err on the side of safety has performed a doubtful service to pathology and surgery of the breast. One has only to read carefully what has been written by Bloodgood on the subject of the benign and malignant tumors of the breast, particularly on the so-called chronic cystic mastitis, to become, if not horrified, at least sick at heart, at the needless and ruthless sacrifice of the organs which seem to say mutely *quousque tandem abulere patientia nostra?* and whose only fault seems to lie in the ignorance of those who remove them. The educational propaganda of the laity to the danger of neglecting any enlargement and lumps of the breast is highly praiseworthy, but it seems as if, while the public heeds the warning well by going to the surgeon with their lumps, the profession, with only too few exceptions, seems to resort to amputation as the only cure of all lumps in the breast, on the principle of "giving the patient the benefit of the doubt," which alas! but too frequently is a very doubtful benefit; to paraphrase the expression: *omne ignotum pro magnifico* one might be inclined to say that the attitude of many surgeons toward the breast tumors seems to be: *omne ignotum pro maligno*. But of all the grim, bloodthirsty Molochs of the breast pathology, at whose insatiable gory altars innumerable breasts have been sacrificed, "chronic cystic mastitis" stands out head and shoulders above them all. Misunderstood by Schimmelbusch for a neoplasm—cystadenoma—it was called by Reclus *maladie kystique de la mamelle* which as McFarland points out, would be a good name if it could be shown that it is a disease (something like bacon and eggs without the bacon); of course, it is not a disease, but a condition, a delayed involution as McFarland has well improved upon the older term of Warren's "abnormal involution." Not only have reputable, experienced surgeons amputated every cystic breast, but, if I may be pardoned for an unintentional pun, they have amputated them right and left—both breasts, regardless of whether or not the other breast seems to be "involved." Alas! they did not seem to know that these

breasts were not "involved" but only not "involved." The correct clinical observation that very frequently both breasts became "diseased" instead of suggesting that perhaps there was a normal physiological reason back of these bilateral changes, only spurred them on to bilateral mistakes. Bloodgood says that out of 350 cases of delayed involution of breast 210, or 60 per cent, were quite benign; that is, the cysts were either blue dome cysts or galactoceles cysts. Think of it! Two hundred and ten patients would, if operated elsewhere, probably be needlessly mutilated, subjected to the danger of the anæsthetic, and, possibly, would have both breasts removed.

When we are young—let us say from the time we are medical students until we have practiced 10 years, our main ambition seems to be to make a correct diagnosis; as we grow not only older but old, we either become so busy that we take not enough time to diagnose our cases thoroughly or, if unsuccessful, we become misanthropic and pessimistic and say, "Oh, what's the use of fussing—let us take it out or off, as the case may be. That will be safer." The wicked old La Rochefoucauld has well said: "Words are like tears—after they have deceived others, they deceive ourselves."

In this sad state of affairs, we, the laboratory workers, cannot assume the smug pharisaical attitude of Pontius Pilate and wash our hands of the matter; that we, ourselves, are quite confused as to what malignancy is, can be readily seen from Dr. Bloodgood's experience with submitting numerous sections to forty pathologists and receiving conflicting opinions in the majority of cases. Of especial interest and significance is the fact that Dr. Bloodgood himself has never received a tissue from other surgeons and pathologists which he has diagnosed as carcinoma and which they had not diagnosed as such, while he has received many tissues which others had diagnosed as carcinoma and he did not so diagnose. Apparently, we have permitted ourselves to be so overawed by surgeons and so impressed with their clinical wisdom to the effect that, even if chronic cystic mastitis is not malignant now, it will become so later (I have seen dozens of such cases, doctor!) that we have become the "yes-men," and have lent our moral support to needless mutilations.

Philosophize as we will, we cannot shirk our responsibility—besides, the philosophy, as the same sneering La Rochefoucauld remarks, only soothes the pains of the past and of the future, but is useless against the present ailments; we might as well hang our heads in shame, whisper

contritely: *peccavi* and try to do better. The most cheerful omen is the fact that there is more and more disagreement among the good pathologists as to whether chronic cystic mastitis is malignant, and, as Dr. Bloodgood has admirably said: "Where the pathologists disagree as to malignancy, the patient lives; where they agree, the patient generally dies."

6. STOMACH

Only one half of the cases in this series was correctly diagnosed clinically, and, with the exception of the duodenal ulcers and the gall-bladder disease, less laboratory work was done in these stomach cases than in the disease of any other organ. The rising tide of unfavorable criticism directed against the helpfulness of the analysis of gastric contents, criticism which is both theoretical and empirical, emanating as it does, both from the laboratory and from some eminent clinicians (the list is headed by no lesser personage than Sir Moynihan), has done much to influence many surgeons either to ignore gastric analysis entirely or to place but little reliance on it. A very common remark is to the effect that since the gastric secretion is constantly changing, its study for a sporadic period of time is practically worthless. Coupled with this general mistrust of the reliability of gastric analysis are numerous statements in the literature which seem to upset some of our time-honored conceptions: thus, Hartman, for example, in analyzing the cases of gastric carcinoma which came to the Mayo clinic during 1918, 1919, and 1920, has found achlorhydria present only in a little less than one-half of all cases; on the other hand, Friedenwald had repeatedly called attention to the fact that hyperchlorhydria is frequently absent in peptic ulcer. Here we have both of our old reliable allies—achlorhydria of gastric carcinoma and hyperchlorhydria of gastric ulcer—failing us, in spite of all these unfavorable criticisms. I, for one, maintain that to neglect the study of gastric contents in cases of gastric disease is absolutely uncalled for, but it must be done right, and by that I mean that the old haphazard ways of making gastric analysis should be abandoned.

Fractional analysis, so highly recommended by Bell and MacAdam of Leeds, should be invariably used; the fasting stomach should also be examined; sometimes two or more analyses are necessary before a definite conclusion can be drawn. Tiresome and time consuming? Yes, but there are no short cuts, unfortunately. After all, exceptions always confirm the rule, and most

gastric cancers and ulcers run true to form, so far as their acidity is concerned. It is through the study of the gastric contents that most of our knowledge of gastric diseases has been secured, from the days of Kussmaul and Leube until today,—when we no longer regard the so-called Reichmann's disease as an entity, but as syndrome most frequently coexisting with gastric ulcer. Of the cases in this paper diagnosed correctly clinically over 85 per cent had gastric analyses done (often repeated), while of the cases incorrectly diagnosed, over 80 per cent had not.

7. SMALL INTESTINE

The discussion of the diseases of this organ will be found together with that of the disease of the liver and pancreas.

8. LARGE INTESTINE

The diagnosis of the disease of the large intestine is not very accurate and I doubt very much if, with the present means at the surgeon's disposal, it can be materially improved—a careful history with a painstaking physical examination and roentgenology still remain the diagnostic tripod of these diseases; the clinical laboratory can offer but a slight help—most useful of all being the examination of feces.

9. LIVER, GALL-BLADDER, DUODENUM, AND PANCREAS

The upper right quadrant and the epigastrium still remain the areas of romance and adventure; in spite of the comparative frequency of these diseases the percentage of the diagnostic mistakes continues to be very high. Surgical therapeutics of these conditions lacks the certainty it enjoys in other diseases, it is simply because it depends on the certainty of the surgical diagnosis. As Judd so quaintly remarks: "Sad experience has shown that gastro-enterostomy does not relieve symptoms of an ulcer—if there is no ulcer."

I cannot help but feel that these cases receive, in a way, a most inadequate diagnostic study, that just as soon as a history of colic or jaundice, or both, is obtained, the *casus belli* is established and the exploratory laparotomy is proceeded with. The early work of Moscovitz with regards to the coexistence of chronic appendicitis, gastric and duodenal ulcers, has received fresh impetus from the studies of Evarts Graham, who has emphasized that the liver, pancreas, and appendix are commonly infected with the gall-bladder, and this—probably better than anything else—explains the truth of the above men-

tioned quotation by Judd. It is in connection with the diseases of these organs that one is so frequently confronted with the futility of attempting to interpret all of the patient's symptoms and signs in the terms of *one* pathological condition; it is but too frequently forgotten that pancreas can be responsible for intermittent biliary obstruction. In these cases diagnosis of cholelithiasis or cholecystitis is made only too readily and the patient's symptoms continue after the operation; yet the existence of this condition has been repeatedly pointed by Morison, who likened the pancreas to the prostate in that the swollen, cedematous pancreas (resulting from lymphangitic pancreatitis) may cause intermittent biliary colic and even jaundice, just as an infection of the prostate causes intermittent obstruction at the outlet of the bladder.

In spite of the accumulated evidence pointing to this coexistence of a multiple pathology, practically all of the diagnoses are singular (some of them, very much so). The laboratory, on the other hand, is prepared to furnish quite a few diagnostic tests, which, while not pathognomonic, can shed considerable light on the diagnosis of the conditions under the discussion, especially, when intelligently interpreted and taken into consideration together with other anamnestic and diagnostic data. The studies of Van der Berg on the blood serum, Widal's hemoclastic crisis, Lyons' studies on the duodenal, cystic, and hepatic drainage, which have opened up a new era in the diagnosis of the gall-bladder and the surrounding organs, the estimation of the pancreatic ferments, the phenoltetrachlorphthalein test, and many others are all very useful, but still remain unused. Why? The reason is that, in the first place, these tests have not yet been incorporated in textbooks and they are but little known to the majority of the profession. When the attention of the surgeon is called to these tests, the usual answer is: "What is the use of subjecting the patient to the expense when the information obtained may not mean anything?" In a way one cannot blame the surgeon for taking this attitude. Yet if the hospitals operated the laboratory on a flat-rate basis, all of this work could be done, and much information would be gathered.

10. MISCELLANEOUS

In discussing the diseases of the remaining organs the same conditions are met with, that is, lack of co-operation between the clinician and the laboratory (due to either ignorance or the desire to protect the patient from the so-called "unnecessary" expense), lack of time given to study

of the patient, insufficient knowledge of gross pathology, and, in some cases, the rarity of the conditions encountered.

III. SUMMARY

(a) A review of about 6,000 cases of general surgery shows that surgeons themselves have admitted 25 per cent of errors in their clinical diagnosis; checking these up with the pathological reports we find that the percentage of clinical errors is 49 per cent, and that of gross pathological errors is 21 per cent.

(b) What are the avoidable and the unavoidable causes of the errors in the clinical and pathological diagnosis?

Among the unavoidable causes are the following factors, arranged in the order of their frequency:

1. The educational propaganda among the laity has resulted in the patients seeking medical and surgical advice much earlier than they used to; this means, of course, that the lesions to be found in such patients are quite early and not of sufficient evolution to produce characteristic and differentiating signs and symptoms. This explanation is concurred in by McCarty of the Mayo Clinic, who noticed, in his sixteen years of studying surgical cases, that the percentage of errors has gradually crept up from 24 to almost 37 in the last three years. The following is a striking illustration of this: In studying the cases of acute appendicitis at different hospitals, I noticed that in one hospital—much the smallest of them all—an exceptionally high correct percentage of clinical diagnosis was made on cases of acute appendicitis. A careful scrutiny of the charts revealed the fact that in that hospital there were—in proportion to the total number of cases—six times as many gangrenous and ruptured appendices. In trying to figure out why that should be, my first impression was that the surgeons of that community were poor surgeons and could recognize an acute appendix only after it had ruptured or become gangrenous. The real cause, however, lay in the fact that most of these cases were brought to the hospital from the surrounding country, the patients being the stolid rural stock who had remained uninfluenced by the propaganda for the earlier surgical advice, and also either went to or called for the doctor just one step ahead of the undertaker. The staff surgeons of that particular hospital had a very high percentage of correct diagnoses of acute appendicitis simply because they saw and recognized the disease at the zenith of its evolution. This condition brought about a very high aver-

age of correct diagnoses for the doctors but also a high mortality for the patients, reminding one of Pyrrhus: "Another victory like this, and I shall have no troops left." Small ovarian cysts, and uterine fibromyomas, early inflammation of the appendix, gall-bladder, and many other very early—and, therefore, very slight inflammatory or neoplastic changes—are practically symptomless or produce symptoms which are exceedingly difficult of recognition, interpretation, and differentiation.

Paradoxical as it may sound, the greater the advance of medical sciences, the greater the percentage of unavoidable diagnostic errors, not only because the patients go to see the surgeon earlier (and therefore present complaints and conditions hard of appreciation), but also because the advance of our knowledge has enabled us to recognize, during the operation, or under the microscope, many conditions which had gone by unrecognized before.

2. Next in importance is the fact that the new microscopical studies have not been always correlated with the clinical symptoms and signs, because of the existing trend towards the laboratory work and away from the clinical bedside teaching and study. This may sound strange, coming as it does from a laboratory man, but nevertheless, I believe it is an established fact that with the development of many new laboratory methods of diagnosis, there has gradually come a tendency to depend more and more on such laboratory diagnosis at the expense of the clinical study, which has, *pari passu*, suffered a gradual but a very noticeable decline. The diagnosis of fractures, clinical and roentgenological, is a very striking example. When one stops to recall what clinical studies of Fournier, Chauffard, and others have accomplished in the diagnosis of syphilis (for example, in syphilitic aortitis), and how now syphilis is recognized by a positive and treated for a negative Wassermann test, one cannot help but admit the truth of the clinical diagnostic deterioration.

As to the avoidable errors, their causes seem to lay in several directions:

(1) Ill-trained men attempting to do surgery without sufficient knowledge and training, unfit either intellectually or mechanically, stubbornly persisting in their attempts "to get away with it" by trying to do the so-called "easy surgery." As a result of this, they do not possess the necessary breadth of surgical vision and cannot make a correct diagnosis even of those "easy conditions" because of their inability to differentiate them from the "difficult" conditions with which they

are not familiar; consoling themselves when confronted with their poor work with the statement, "even Dr. So-and-So once made such a mistake, perhaps even more than once," or with such trite platitudes and banalities as, "the only people who do not make mistakes are those who do not do anything," etc. One might answer these smug, self-satisfied Pharisees that cheap sophistry does not take the place of philosophy; that *quod licet Jovi, non licet bovi*; that, if the famous surgeon So-and-so made a similar mistake, he made it in spite of being a great surgeon, not because of it; one might say—but what is the use of saying? If such men are perfectly content to resemble the good surgeons only in their mistakes, if in their eagerness to do surgery because of the money it brings them, they forget that no one has a moral right to open an abdomen unless he can do everything that may have to be done, if they are willing to be shyster surgeons—why waste words? Sooner or later, the suffering public learns these things; the influence of the College of Surgeons gradually weeds out these incompetents; and if this is not sufficient, some other force—be it moral or physical—will evolve.

(2) Another factor responsible for a considerable percentage of errors is the fact that many patients do not stay long enough in the hospital prior to the operation, and thus are not sufficiently studied. Here should also be mentioned the insufficient laboratory work done, either qualitative or quantitative. In my studies I have gained a definite impression that in such conditions as chronic ulcer (peptic and duodenal), cholecystitis and cholelithiasis, chronic pancreatitis and appendicitis, the correct diagnosis is always in direct ratio to the amount of the laboratory work, whether the latter is used for confirmation or elimination.

In commenting on the increase in the percentage of diagnostic errors at the Mayo Clinic, from 24 to 37, McCarty adds that this was in spite of the fact that each patient had more laboratory work done than ever before. I must confess that the impression I have gained is diametrically opposite, and that some other factors must be offsetting the advantages of more laboratory work.

(3) In over 30 per cent of the wrong diagnoses the fault lay in the attempt to interpret the entire clinical picture in the terms of one pathological condition, whereas, in reality, two or more independent lesions were encountered during the operation, under the microscope, or at the autopsy. These partially correct or incomplete diagnoses are becoming a problem and

more attention should be given them. A striking example is the following: at the operation it was decided that the condition was inoperable because of the enlarged glands in the vicinity of the stomach; one of these glands was removed for microscopical diagnosis, and the gland showed no malignancy, being due, of course, to some co-existing condition. Another example: the clinical diagnosis was finally decided to be gastric lues because of the peculiar history, indefinite laboratory findings and unusual roentgenograms; the Wassermann test was 4 plus and this apparently clinched the diagnosis. At the autopsy, a few months later, the stomach mass was found to be carcinoma, while the liver contained several gummas.

CONCLUSIONS

Et pourtant j'avais quelque chose là.

—André Chénier.

1. Clinical surgical diagnosis is wrong in at least about one-third of the cases whether the observations are made in an exceptionally good clinic or in several average hospitals.

2. The unavoidable causes are the early lesions which produce but few—if any—recognizable symptoms and signs, and the rare lesions which the average surgeon is not prepared to recognize; there seems to be no way to deal with this situation.

3. The avoidable causes are:

(a) Ill-trained and incompetent men, of the type which writes preoperative diagnosis after the operation and forever babbles about making the same mistakes as the famous surgeon So-and-so—at which point all similarity abruptly ceases. In spite of the best efforts of the American College of Surgeons, notwithstanding the attempts on the part of the hospitals to rid themselves of such men, they will persist, and for this the responsibility is shared by several factors: appointments through favoritism, financial influences, and particularly the so-called professional ethics which, like patriotism, according to Dr. Samuel Johnson, is the last refuge of scoundrels.

(b) Patients should be sent to the hospital so as to permit sufficient time for study not only by the house surgeons but by the pathological and roentgenological laboratories; it has been repeatedly shown that most good will be accomplished whenever the pathologist is invited by the surgeon to see the patient, to study his history and physical findings and then—the most important of all—to determine what tests should be done for the patient. This is extremely important. The pathologist should not only supervise

the performance of the tests, but should be the one to decide what tests are necessary to clear up a given case. Then the pathologist ceases being the chief technician and becomes a colleague to the surgeon and gives the best that is in him.

(c) This is only possible when the patients are charged a flat fee (varying according to their financial condition or the room they occupy) for all laboratory work. This will permit the doing of anything the pathologist thinks is necessary without the suspicion or accusation of trying to run up an unnecessary bill. This is only possible when the pathologist's position is such as to command respect, and, unfortunately, this is not always dependent on his knowledge. Unless his financial status is considerably changed for the better, unless he is paid more than a second-hand Ford salesman, unless he is given a share in the hospital's affairs, he shall be what he still is—a professional pariah, of whom even his best friends say: "Can't see what he is sticking in the laboratory for, when he is clever enough to go out and practice." The result of such attitude toward the laboratory worker is half tolerance and half good-natured contempt which will persist until the laboratory man's position is radically changed. Our entire conception of success is that of money and more money, and I dare say that the pathologists are not very frequently seen on the golf links. Look at the way the mistakes made by the clinician and those made by the pathologist are judged: one scarcely hears about the former but let the laboratory man miss the least little thing, and what is not said of him and his work!

I have often felt that Shakespeare must have had just that in mind when he made his King Lear say:

"Through tattered clothes small vices do appear.

Robes and furred gowns hide all. Plate sin with gold

And the strong lance of justice hurtless breaks.

Arm it in rags, a pigmy's straw doth pierce it."

(d) The younger men should be especially cautioned as to the multiple pathology producing a composite picture, and the pitfalls which are in one's way when he attempts to explain all symptoms and all signs in the terms of one disease.

4. Only when all of the factors considered in this paper are repeatedly discussed at the individual hospital staff meetings, only when they are met honestly, fearlessly and impartially, only then will we be able to discard Billroth's famous dictum: "The success in surgery walks over the corpses."

Gentlemen, let us make this unnecessary, or at least, let us reduce it to an irreducible minimum!

THE HOSPITAL AND THE DOCTOR AS COOPERATING FACTORS
IN DIAGNOSIS

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I HAVE here a few of what I like to call diagnostic texts. There is nothing new in them; nevertheless they are truths, and things we ought to remember.

(1) A diagnosis is a decision. Lack of decision has lost some of the world's greatest battles and has changed the destiny of nations.

(2) We cannot build castles in the air. One might as well try to construct a building without a foundation as to treat a patient without a diagnosis.

(3) The diagnosis is not made for its own sake, but rather as a means of promoting the recovery of the patient.

(4) A tired physician cannot give his best to his patient.

(5) The intelligent co-operation of the patient is required.

(6) A suitable environment is required for careful clinical work—quietness and good light.

(7) Uninterrupted concentration is required for reliable examination.

(8) Forms for recording work and observations should be provided.

(9) Begin with the symptoms which caused the patient to seek medical advice. Do not make a hurried diagnosis and then work backward trying to make the symptoms fit your preconceived ideas of the case.

(10) The medical student, the intern, the patient and his friends are very apt to be carried away by the grand-stand play of the man who makes a positive snap diagnosis.

(11) Thoroughness and accuracy are the watchwords of the reliable physician. Snap diagnoses are dangerous.

(12) Indefinite signs propounded by enthusiastic observers are not always reliable.

(13) Do not ride your scientific hobbies to death. The physician who sees his particular hobby in every patient is apt to stretch his imagination.

(14) The patient must not be allowed to lose his best opportunities for recovery while refinements of diagnosis are being investigated and discussed.

(15) The history is an important factor in every case.

(16) Findings should be carefully recorded *at the time of the examination*.

(17) More than one examination is required in most cases.

(18) Examination of one organ or system is only a partial examination of any patient.

(19) Most patients have defects in more than one organ or system.

(20) The clinical thermometer, pulse rate, and the scales often reveal things we can neither see nor hear.

(21) Properly controlled, prompt, and reliable laboratory and X-ray service is required.

(22) The laboratory and X-ray are necessary assistants, but cannot replace sound clinical judgment and a thorough physical examination.

(23) Routine examinations of urine, blood, and sputum should be made.

(24) Careful records by nurses and internes are valuable; careless records are dangerous.

(25) All findings should be carefully reviewed before making a definite diagnosis.

(26) The hospital should have a library of reference books available for use of physicians and internes.

(27) Two heads are better than one. A careful physician does not hesitate to seek advice or consultation.

THE STAFF CONFERENCE AS A PROBLEM OF THE HOSPITAL

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THE Staff Conference as a part of the standardization program of the American College of Surgeons, has, for the most part, stood the test of time, not very long perhaps, but long enough for us to attempt its evaluation.

Much has been written about case records—more, I am sure, than on any other phase of hospital organization. So much has been said that there is danger of the subject becoming trite; a possibility that we poor listeners may arrive at a state of complacent self-satisfaction. That would spell disaster, for good records everywhere are so recent that it is difficult to think of many hospitals where some improvement could not be effected. It is not my intention, though, to speak of the individual case record, or of records at all, except in relation to the staff conference.

Much has happened in the hospital field since the promulgation of the Minimum Standard in 1918. Accepted here and there, then rapidly making its way, the Staff Conference has generally found favor. The medical profession is to be congratulated on its ready and speedy acceptance of so radical an innovation.

The Staff Conference may be anything at all that we wish to make it, but it must be the review of the clinical experiences of the staff, for does not that Standard explicitly state, "That at staff meetings . . . the staff review and analyze at regular intervals their clinical experience in the various departments of the hospital"?

Periodically, then, the entire staff must go over the work of the hospital. Is this being done? Generally speaking, yes. Yet not everywhere is there complete satisfaction. Some of us are living up to the letter of the law, some to its spirit, while others are methodically and painstakingly meeting once a month to no purpose. In some hospitals the conference is a business meeting, in others the outlet for endless clinical discussions, or the prototype of our average medical society meeting. With many men attendance is perfunctory. They say, "We have enough meetings; the conference is a bore; it breeds discontent, and sometimes strife, and it does no good anyway." That is the worst that has been said about it. What matters it if some of us who have watched the tremendous improvement in hospital conditions since 1918 believe that the

staff conference is, by all odds, the most important single factor in the standardization program? It is time we took stock; time to ask ourselves an honest question: Is the staff conference the precious thing we think it is, or is it just top-heavy hospital organization? Let us see.

If the hospital is erected for the patient, then the whole purpose of the hospital is undone, if the staff prove to be incompetent or careless. The medical staff is then the most important part of the hospital organization, and it follows that the selection of the staff is the greatest responsibility of the hospital management, which is pledged to give honest service to the patient. The trustees may not shirk their responsibility, nor the staff decline to submit to a periodic audit. It may not be possible, or even desirable, to apply the exact methods of modern business to the hospital, yet there is available, or should be in every hospital, the records upon which judgment may be passed. If it is true that much more may have been done for the patient than appears upon the record, then it is equally true that nothing but the record may be considered.

That there must be a record of what happened in the hospital is obvious. That the collection and proper appraisal of large numbers of cases offer great possibilities for research no one will deny, and the hospital management might properly predicate stagnation of individuals of the staff upon failure to review these records. But there is a more precise method of staff evaluation in a critical analysis of these records in the check-up of diagnoses and results.

Although it is the business of the hospital management to know what the staff is doing, it is the duty of the staff to find out what kind of results it is getting. Charged as a group with the responsibility for the medical and surgical care of the patients in the hospital, the staff must be aware of the capabilities of its individual members. This can be done in no other way than by the creation of group consciousness, which the critical self-analysis of the staff conference has done.

This sense of group responsibility points out to us that the annual report is apt to be a useless tabulation of admissions and operations, and sends us to the record room in search of the real accomplishments of the hospital. If good records are not found there, they soon will be, for here is

their most important function. No proper standards can be maintained in any hospital without frequent analyses of the records of that hospital.

If we say that the staff *must* go over its records periodically, then we are agreed that we must have the staff conference. And when we see that the administrative officers of our own hospital look to us for an accounting, then we will realize that our own conscience demands the staff conference—and not the College of Surgeons. The staff conference is not a hardship, but part of the routine business of taking care of our patients.

In the modern hospital, though, there is more work than there ever was, and often it seems as if we could do no more. The burden of the staff conference is very heavy, the amount of work involved in its preparation enormous, and the small group active in its support may grow tired. There is a problem. Surely no staff should be asked to do the physically impossible, and it is not good sense or good administration to expect it. As maintenance of interest is the prime factor of success, and lightening the load the next, there is a very definite obligation placed upon the management of the hospital. This, perhaps, has not been stressed enough. If we are required to review the records, then we should be provided with such facilities as will simplify the task. We must have help—a statistician or some one person in the record room whose sole concern is the preparation of material for staff review.

There is much that could be done. The field of medical statistics offers wonderful possibilities for study. When every hospital, large and small, begins to see that continuous research is easy and practical through the operation of the staff conference, much will have been accomplished. Studies of the results of treatment or the accuracy of diagnoses may be planned by the staff, carried along in the record room, and reported to the

staff conference from time to time. In the meantime, other and simpler data could be worked out for every meeting—critical analyses intended to be productive of better records. For instance: cases with inadequate history or no history at all; cases with no discharge examination, or cases in which, as of old, the only record of progress is to be found in the nurses' notes; women's records without marital or menstrual history; obstetrical and tonsil and adenoid records without physical examinations; fractures without X-ray; and the cases never seen by anyone but the interne. Studies of preoperative preparation, consultation results, and gross errors in diagnosis may be easily managed. Analysis of laboratory work is always worth while, and time studies stimulate us all to activity. How long before the urinalysis was recorded, and the tissue removed at operation reported? How long were drugs continued after the apparent need had passed? How much time elapsed from operation to the day of discharge, or from the day of admission until seen by a member of the staff or the chief? The possibilities are limited only by the ingenuity of the record room.

The principles involved in the institution of the staff review are the same for hospitals everywhere. There may be difficulties here and there, but they must be smoothed out. No hospital is exempt. If it is right for one, it is right for all. That "No hospital is better than its medical staff" is old, but true. It is equally true that no staff, no matter how good, can function properly unless it feels that the administration thoroughly appreciates its problems. The staff cannot shirk its responsibility in the matter of the staff conference, but the final responsibility rests with the administration, whose plain duty it is to see that the hospital functions properly. If we wish to have group consciousness, we must have the staff conference.

STAFF CONFERENCE DEMONSTRATION

STAFFS OF ST. CATHERINE'S AND GREENPOINT HOSPITALS, BROOKLYN

Under the Direction of Frank D. Jennings, M.D., Brooklyn, Visiting Surgeon, St. Catherine's and Greenpoint Hospitals.

THE staffs of St. Catherine's and Greenpoint Hospitals, Brooklyn, N. Y., demonstrated a staff conference. The following outline on the subject of staff conferences was given:

WHY?

(1) It is paramount as a staff stimulus. (2) It is the most valuable single factor in producing

good records. (3) It is one of the most efficient means of postgraduate medical education. (4) It provides unlimited opportunity for staff review of current work. (5) It is a deterrent to unnecessary surgery. (6) It is a check on the incompetent, a boon to the competent. (7) It lifts a hospital and its staff above the level of mediocrity.

WHEN?

Once a month at the most convenient time for the majority of the staff.

HOW?

(1) Best managed through and by a Staff Conference Committee. (2) Regularity and punctuality in holding the meetings. (3) Essential and primary recognition of the fact that staff confer-

ences are not clinical or county society meetings, but are designed for staff review of staff work. (4) Must be impartial, just, fearless, dignified. (5) Agenda should always include mortality and may include morbidity. (6) The abstracting of case reports and limiting them to five minutes is highly advantageous. (7) Every case report should have a record critic who closes discussion on the case.

STANDARDIZING STAFF CONFERENCE PROCEDURE

ROBERT L. DICKINSON, M.D., NEW YORK
Senior Gynecologist and Obstetrician, Brooklyn Hospital

THIS search for the essentials of a surgical audit had three origins. The first was the need to balance the books in one's own service, the second was the observation of occasional striking variations in the character of the work and judgment of operators visited in America, Europe, and the Far East, and the third was the estimate of surgical performance developed in the Surgeon-General's office during the war. Surgical accountancy has to do with promotion for merit and with annual reports, but its basic purpose is to promote better surgery and to eliminate the unfit.

Visits to staff meetings are a somewhat different matter from visits to operating rooms, or attendance at medical society meetings. In the operating room one chiefly studies technic, even though a good idea of the surgeon's judgment may be obtained. At a scientific meeting one gets a man's own version of his results, but it lacks confirmation or check. At the proper kind of a staff review one can analyze a man's results in a way not possible by the other two kinds of observation. One gains much in studying orderly procedure, and one notes how considerable a variation of detail is possible, and sees that all methods that would seem desirable are rarely to be observed at any one hospital. A combination of the best things found at a number of these conferences is needed.

The extremes observed in a series of forty-four different meetings run all the way from a program made up solely of presentation of rare or interesting cases to an analysis so elaborate as to constitute a maze of detail without summary or conclusion. The methods encountered run from a whitewashing committee all the way to a criminal court. It is evident that between these variants there must be a happy medium and a reasonable solution. The problem is before every staff, and

some practical method of accounting is bound to become as common as our standard financial accountings. This eventual method (at least in its summaries) must be simple enough to be grasped by any layman or it is no accounting at all.

Next in importance to the principle that the summary must be brief and clear, comes the principle that the figures must have been analyzed and not merely given at their face value. Statistics are dead things. As with other dead things, you cannot make a real diagnosis without regular autopsy.

The thoroughness of review and the candid character of the reports, in the best examples of staff review I have visited, are beyond praise. Not only is the weekly or monthly casualty list brought forward with a due sense of proportion and emphasis and with searching, yet kindly criticism, but certain subjects are reported on for full periods, such as a year, and the follow-up results get due consideration.

It is not in the large and well equipped hospitals that our review and analysis is often omitted. It is in the smaller or less active institutions and in the smaller cities that the omission is most commonly found. There are, however, many exceptions. In end-result studies lesser cities in Massachusetts are found to put to shame the Exalted City of the Prophet. In them Codman could put out his lantern.

A suggested standard procedure follows for staff reviews.

FREQUENCY: One hour, weekly, for active service of 50 surgical beds. One hour, monthly, for active service of 25 obstetric beds.

PREPARATION: Brief summaries must be prepared beforehand by the attending surgeon, with full history itself at hand.

CASUALTY BOOK (or Clearance Book) to be kept up to date so that each case can be marked

"cleared," or "not cleared." Total number of cases in the casualty list is rarely large, 5 to 10 per cent of total.

NOTICE OF MEETING to every member of department from consultant to dispensary assistant, and to house staff. Open to rest of staff and medical public. Trustees receive general invitation.

Procedure at Meeting: Each casualty to be reported by member of staff actually responsible, or in his absence, deferred for next meeting. Then, if member is not present, report by assistant or house surgeon.

1. *Deaths*, with special attention to postoperative deaths (2 to 4 per cent).
2. *Complications*, such as shock, postoperative pneumonia, embolism; temperatures of 101 or over 48 hours which develop inside the institution; prolonged overstay.
3. *Failures of Primary Unions in Clean Cases* (5 to 8 per cent).
4. *Gross Diagnostic Errors*.
5. *Re-Operations*.

Whenever funds are sufficient, report is made on:

FOLLOW-UP END RESULTS: Presentation of all cases reported "unsatisfactory."

STAFF ROUNDS may follow or precede review.

Pathological specimens may be presented at beginning of meeting and special successes or general summaries follow the casualty clearance. Entry of absences and excuses for absence made at end of meeting.

TIME REQUIRED to keep material ready—stenographer $\frac{1}{2}$ hour a day in 300 bed hospital. For annual report, assistant visiting needs 3 afternoons per year. For complete follow-up, 1 clerk per 100 beds.

SURGICAL AUDIT TAKES PRECEDENCE OF FINANCIAL AUDIT

If one had the choice between an audit of the money vouchers or of the life-and-cure vouchers of a hospital one would choose to spend the money on surgical accountancy rather than on the certified public accountant. The latter draws from one to three dollars a bed per year for his service. Such service is now standardized and expected as part of an annual report. It is for the College to determine how the surgical audit can run parallel to it and become a stock procedure.

The average annual report of the hospital is surgical waste paper. When it embodies a list of names of operations, it does not even show the number of patients operated on and yields no inkling of quality of service rendered. Quantity

merely demonstrates bulk of work done. The test of quality can be applied to the smallest institution and may measure it up against the wealthiest. Quality in this sense demonstrates also utilization of beds. The less the overstay, the larger number of patients per bed per annum.

A method of review must be applicable to the poorest hospital as well as to the richest or else we are proposing an unreasonable requirement. We fix a minimum, and the high-powered institutions can elaborate on this. The minimum included in the classification program of the American College of Surgeons is that a "staff review" shall be held, but the College, while specifying in some detail what it means by its other requirements, such as laboratory or X-ray outfit, has not, though challenged to do so, been willing to define the requirement called a staff review.

An irreducible minimum may be defined as a meeting of all available members of a staff of a hospital, department, or service (according to size) at which there shall be presented, self reported by the member responsible, each death or serious complication, each wound breakdown or gross diagnostic error. For the annual report the minimum surgical requirement should be a statement of the operative mortality, with the number of patients operated, the results in some type operations, and the results in the healing of clean wounds.

To secure uniformity there will need to be definition of terms so that results may be comparable between different hospitals. Eventually there must be developed an inspection by surgical accountants in order that one may determine that the methods employed are more or less alike in different institutions. For instance, in Greater New York the municipal hospitals class abortions among stillbirths and other hospitals do not. Hence comparison of this particular mortality cannot be made. Such uniformity can hardly be secured, unless national professional organizations undertake the responsibility of making definitions. There is, however, no need to wait for such action to get immediate results.

It is often said that a man can juggle his figures and make returns look much better than they really are, and that the surgeon with a conscience will exhibit results less favorable than those of the surgeon who will suppress unfavorable cases. The answer is that a death is a death; that five weeks in hospital after operation are five weeks and not three weeks. It is objected that the surgeon whose main consideration is his mortality report will refuse some man his only chance of recovery—such as the arrest of a severe internal

hemorrhage—lest his figures be affected. The answer to this is that no statistics should be considered without analysis, and all cases be marked as “cleared” or “not cleared.” An omission of operation is thus subjected to entry of unfavorable comment.

One thing we cannot avoid. Hospitals have been known to refuse to take patients with grave outlook, lest their mortality be increased. I know no way of checking this except publicity through the county society. Every casualty must be taken up on its own merits and analyzed.

Objection is made that such reviews involve an unwarrantable amount of time and labor. This is true to a very limited degree inasmuch as fatal results will not embrace more than 5 per cent of postoperative patients, and other mishaps not more than 10 per cent of the others. Moreover, very many of the summaries will be so brief as to take but a few lines of writing and a very few minutes of time for report or comment. The cost in a 300 bed hospital will be one-half hour a day of the time of a stenographer and three half days of an assistant surgeon to make up the annual summary.

The further objection is made that the confidential relation between the doctor and his patient is not maintained if the details of diagnosis and advice are brought out in a public meeting. There is weight in this objection. Though names are never used, yet it is admitted that, in case of conspicuous individuals and in various other instances, the staff might actually know who was referred to. The further objection is raised that one cannot force a conspicuous surgeon, let us say one who is on a courtesy staff, to make this report. There is a way to meet this difficulty. In accepting the position the surgeon obligates himself to report his casualties, and in case he does not do it personally by the second meeting after the casualty has occurred, he agrees that the house surgeon is to do it for him. He thus loses his opportunity to state extenuating circumstances or answer criticism and will not absent himself willingly. He is asked to attend or resign. He need only attend the meeting when his own casualty is to come up.

When it is asked who shall be the critic of a conspicuous operator, one of the half dozen leading surgeons of the country, the answer is that he himself is thus made his own critic, and that he necessarily states the raw facts because his house surgeon and assistants, who know these facts, are sitting in at the meeting. The critic and inspector is one who stands higher than any surgeon in the land, and his name is Publicity.

Comment on cases presented is less necessary than would be supposed, since the facts usually speak for themselves. Certain it is that there are no regulations, rules, or requirements of trustees or hospital staff that can begin to produce the results in way of good histories, consultations, or preoperative study of risk compared to the staff review. The omissions stare out at everyone.

Simplification of procedure is not a mere matter of economy of time. It is found that too complicated an analysis defeats its own purpose. It is probable that longer study of Codman's end-result classification will develop, even on the part of the hospitals, with an ample staff of reviewers and clerks, a simpler grouping and method.

To Codmanize is less difficult than to “resolve into simple elements.” A maze of data develops, as our Presbyterian Hospital has found. We must experiment on some simplicities looking toward a decision as to which ones are elemental. Such a perfected outfit as that of the Woman's Hospital in New York or University of Pennsylvania can do this. Meanwhile the absence of clear analysis in the annual reports of some of our wealthiest scientific hospitals is no good example and guide to us of more limited facilities.

AN ANNUAL REPORT AS A REQUIREMENT

The American College of Surgeons has taken the essential first step toward checking careless, unskillful, or unnecessary operations by requiring staff reviews. We have seen that in many such gatherings no summary is presented but merely casual clinical case histories. Even where such meetings constitute actual surgical accountings, they occur at such short intervals that no general survey of the situation in the particular service of hospital is developed as a routine, and few data are presented whereby general or individual progress or retrogression is to be determined, except in a few institutions. Therefore it would be of equal if not of greater value to require, for admission to Class A, an annual summary of results on some broad and rather simple lines as an item under staff reviews.

In our present classification, the College measures equipment and machinery rather than the product of that machinery. It scrutinizes histories but not the results as shown by histories. Let it go on that step further. If it does not, though trustees learn that they have the proper outfit functioning, yet they cannot determine what their product is, whether good, bad, or indifferent. I am informed, for instance, that the Massachusetts General has made no general surgical survey since 1921.

PUBLICATION OF GENERALLY ACCEPTED
STANDARDS

As far as I know there has been no systematic attempt made to collate the averages of success in surgical procedures. Unless this is done, how shall a surgeon gauge his work, or a hospital superintendent or trustee measure the efficiency of the surgical group? How shall proper allowances be made for different conditions under which the work is done? As an example, suppose we take results for a common operation and see whether an upper and lower limit of success may be made into a concrete figure. In hysterectomies for uterine fibroids, the German reports for 1910 to 1920, in over 14,000 operations, showed an operative mortality of 3.3 per cent. In the Mayo Clinic and in the Woman's Hospital, with a variety of operators in each, the death rate runs close to 1.5 per cent. John Clark can thus make comparison with his 1 per cent mortality. Your hospital or mine, gathering a series of at least a hundred (and better 300), knows it must not exceed 3 per cent without being called in question and that it should strive for half that rate. A scale of this kind may be applied readily to certain classes of operations such as those on hernia, thyroids, and gall bladders, removal of the chronic appendix, of the breast, and of the tonsil.

Taking other, and somewhat crude examples, let us say that, judging by a few reports, for a general gynecological service or major surgical operator, the mortality may not run above 3 per cent without sharp scrutiny to see whether more than the average of grave cases have been included. In one institution whose results I surveyed, two operators raised the general mortality of a given year so that three patients were dying for every two that went out two years previously.

Or let us study stillbirths and look into the records of every institution that yields a death-rate of over 1 in 20. Let us investigate any maternal mortality over 1 in 200 in general hospitals and over 1 in 300 in private maternities. These are examples of simple tests readily applied, but always to be accompanied by a study of the particular conditions of any particular institution whose rates run high.

RESTRICTION ON EXCESS SURGERY

The requirement that there shall be issued certain stock reports with sample operative returns, and the value of such comparisons, however gross, may find an illustration in such a matter as the frequency with which cesarean section is employed in various institutions

In five hospitals in Springfield, Mass., the frequency of section is once to 186 deliveries; in Greenpoint Hospital here, the average is 1 for 128 labors; in the Long Island College Hospital, 1 for 125; in Johns Hopkins, 1 in 100; in Brooklyn Hospital, 1 in 50; in the Methodist Episcopal Hospital in Brooklyn (1923), 1 in 15½. As the average for the maternities for the country seems not to run over 1 in 100, this last figure and the one quoted some years ago for one of the services at the New York Lying-in, of 1 in 9 labors (covering 580 cesareans), calls for study by some authoritative body. Certainly the maximum figure, 1 in 5, cannot be allowed to go unchallenged by the profession. If medical organizations do not take such matters up, the state will.

Suppose it were generally known by the public that its mothers, sent in to certain maternities, stood one chance in fifteen or one chance in nine of being delivered with the knife—six times the chance or eleven times the chance that general medical experience sanctions—what would be the effect on the trustees and on the lay public? Would not investigation follow? Would there not be an appeal to some authoritative medical body for a standard and also for a study of the records of these institutions?

SURGICAL PUBLIC ACCOUNTANTS

Who shall pass judgment on the surgical judgment of surgical confreres? The consultants of a hospital, who may be antiquated or ultra-conservative? Surgeons from other hospitals, possible rivals for professional position? A committee from the county society, possibly appointed through medical political favoritism? The College of Surgeons, distant, and represented through young salaried inspectors? There is no ideal and clearly practicable method which has been so far proposed that would be acceptable and free from very evident objection. Nevertheless, the experiment must be undertaken. For New York City the Hospital Information Bureau of the Academy of Medicine is equipped to gather and digest the data, if the College will tell the Bureau what data shall be gathered and with what average results comparisons shall be made. Neither state nor county medical society nor the local surgical society nor the local branch of the College has funds or personnel to make or carry out a report of this character. Why not joint action?

SUMMARY

1. Staff reviews that are mere clinical meetings are not uncommon and furnish no protection against unwise surgery.

2. A standard procedure and annual summaries of certain selected results should be a minimal requirement by the College.

3. In staff reviews each case should be endorsed as "cleared" or "not cleared."

4. Lists of the average results to be expected from various common surgical procedures should be issued from time to time.

5. Surgical accountants must be trained and employed to analyze hospital accounts.

(Discussion by Malcom H. V. Cameron, M.D., Toronto, Ontario; Demonstrator of Clinical Surgery, University of Toronto Faculty of Medicine; Assistant Surgeon, St. Michael's Hospital.)

Dr. Dickinson covered the ground so very fully that I have really nothing more to say. I came here with a more confident feeling than Dr. Dickinson, because I came from a hospital where we thought our staff conferences were pretty nearly perfect—I refer to St. Michael's in Toronto.

We attempt to have our conferences simply analyses of the hospital progress for the month. Such things as reviews of certain kinds of cases

and complicated affairs of that kind are referred to the staff meetings on Friday mornings, when we have an hour for such cases as are to be discussed as clinical entities.

I admired very much the frankness of the meeting here; the searching inquiry into the cases, and the way in which the men took the criticism that was administered them. In St. Michael's we have a sort of antidote to this: we have a golf tournament with a monthly contest for the McKeown Shield, a small replica of which is given to the champion of the year. The staff thereby meets under different kinds of auspices; one under criticism and the other under pure friendship, ending up in a dinner at the end of the match.

However good our own home conferences may have been, they will be improved by today's demonstration. The work was excellent, and to quote Dr. Gordon again, in order to have group consciousness, we must have staff conferences such as have been illustrated to us this afternoon.

MORNING SESSION, OCTOBER 21, 9:30-12:30. PRESIDENT CHARLES MAYO, M.D., ROCHESTER, PRESIDING

THE RELATION OF THE HOSPITAL TO THE DEPARTMENTS OF RADIOLOGY AND PATHOLOGY

GEORGE S. MCREYNOLDS, M.D., TEMPLE, TEXAS

Oculist and Aurist, King's Daughters' Hospital

IT was not my privilege to be present at the last hospital conference of the American College of Surgeons held in Chicago last October, but I have since read the published report and found it exceedingly interesting, especially the papers and discussions concerning the departments of Roentgenology and Pathology.

These papers and discussions were participated in by hospital executives, clinicians, and directors of these departments, each expressing what was considered the ideal and all frankly stating that they were not satisfied with present conditions, either on account of inadequate returns to the ones doing the work or inadequate service to the patient of the hospital. Of course the prime object of all this is to find a plan that gives the patient the service that he is justly entitled to and at a price that is within his means. The statement is made frequently in regard to the larger hospitals that the very poor and the very rich get all that they should have along this line, but the population between these two extremes

do not receive the service that they should, and since these people are greatly in the majority and are the bone and sinew of our country, any hospital that does not serve them properly is not serving the purpose for which it was created.

The discussions at the Chicago conference and the general statement concerning the unsatisfactory condition in regard to these departments has prompted me to give briefly the manner in which these departments are being handled at the King's Daughters' Hospital, Temple, Texas, and which has proven quite satisfactory after an experience of twelve years. I do not mean to say this result has been brought about without exercising considerable patience and forbearance, because such would not be true, but we do feel that the final result to all parties concerned is more satisfactory than has been the experience of most places, and the plan is different from any other mentioned.

In order that you may get the full force of "The King's Daughters' Plan" I feel that you

should know something of the local situation as to population and its character, competition, immediate and adjacent, and the financial support of the hospital. We are situated in a town of 15,000, surrounded by farming population. We have no rich, and but few in abject poverty. We have located here a railroad hospital of one of the largest systems in the country. This does not afford competition as to private patients, but as it is reasonably well provided with money from dues paid by employees, it makes it very definite competition as to service rendered to patients. We also have located with us a privately owned and operated hospital, owned and operated by the chief surgeons of this same trunk line railroad, with all the prestige and influence that position carries with it. In addition to this, almost every county surrounding us has from one to three smaller hospitals competing for all the business they can get. On each side of us and within one to two hours' ride from us are cities of several times our population, and each is very liberally supplied with hospital accommodations.

The hospital is a corporation without capital stock, organized under the laws of our state as an institution of "purely public charity," the conditions being that all income of the institution shall go to maintaining our charity patients and keeping up the institution, no dividends or profit going to any individual. We are without denominational or endowment support, and the only source of revenue is that derived from pay patients.

Twenty years ago the present administrator had turned over to it a two-story frame residence almost bare of equipment but loaded with a deficit of a former administration. We are now housed in a fireproof building four stories high and one hundred and sixty-six feet long, are well equipped throughout, and have a debt of less than 25 per cent of its present value.

I mention these things not in a spirit of boastfulness, but to impress on you that if we have been able to establish the relation with these departments, every other hospital should be able to do so likewise, as there certainly have been no unusually favorable conditions for their development other than our own efforts and co-operation.

Now as to the plan we have had in effect for the past twelve years and which has proven satisfactory. The directors of both departments are regular graduates of medicine who were engaged in the general practice of medicine before taking up this particular field of work. Not only were they engaged in general practice, but it was general practice in the country where they had no Departments of Roentgenology or of Pathology to

fall back on and were put to the severe test of educating their eyes, ears, and ends of their fingers to tell them things.

Pardon me for digressing here for just a moment to say that, as important as I feel that an internship is to a medical man, the experience of a general practitioner in the country, where he has to learn how to think out his own problem and has to handle his patients and their friends, is almost as important, and is one the modern, highly trained man in special work is almost entirely ignorant of.

The directors of these departments are given by the hospital, free rent with heat, light, and janitor's service, and they in turn maintain their sole office and place of business at the hospital, furnishing their own equipment and such technicians as they may require to give the hospital service in their respective lines, and are on call at any time, day or night. Of course we reduce the Sunday and night work to a minimum.

Both are fully equipped. The Department of Roentgenology is equipped to X-ray a broken finger or to give deep X-ray treatments to a 250 pound patient.

The Department of Pathology is equipped to section all tissue, make blood and urine examinations, Wassermann tests, and chemical examination of stomach contents; likewise to carry out the various bacteriological procedures as should be done by a good laboratory. These men not only do the hospital work, but are permitted and encouraged to do all the outside work in their particular line that they can get to do, and thereby increase their revenues very materially. At the same time they are stimulated to take up the newer things as they come out, thus giving to the patient of the hospital "up to now" service and the directors increased revenue derived from the greater field of work.

As stated before, the hospital finances and the finances of the departments have nothing to do with each other and the arrangements of the two departments differ just a little. The Department of Pathology is about as follows: The members of the staff make arrangements to pay the director so much per month, this amount being mutually agreed on between the clinician and the director, the director doing all the laboratory work for the clinician whether it be for a patient in the hospital or out of it, the clinician charging it up to the patient or absorbing it and making his charge for services rendered just as he feels the conditions justify. This arrangement is entirely voluntary with the clinician as he can have his work done and charged to the

patient direct by the director, but the plan of paying the director a monthly salary is by far the most satisfactory and is the plan used in more than 85 per cent of the work of the hospital.

The Department of Roentgenology is somewhat different. The individual fees are larger and are handled entirely on fee basis, the director making his charge direct; of course the clinicians and hospital co-operate to see that he does get his collection but neither department entering into the bookkeeping of the hospital.

Now just a word about the location of these departments, which is just across the hall from the main operating room, convenient for the pathologist to see tissue *in situ* or for quick section to be made and reported on in the briefest time possible. Likewise with the Department of Roentgenology, the patient can be X-rayed, carried across the hall, operated or placed in position, and again X-rayed, and last, but not least, the director can fluoroscope a patient, and plate and give his interpretation, and at the time of operation step across the hall to see whether or not his interpretation was correct. This to a roentgenologist is almost equal to an autopsy to the medical man and unless conveniently arranged will not be utilized so often.

Likewise the offices of these departments are general headquarters for the clinician where many informal consultations are held both as to the welfare of our patients and the more serious subjects of the golf score the day before or the number of fish caught that morning.

It seems to me that our plan of having the clinician pay the director a definite salary based somewhat on the volume of work done and leaving the director free to go on the outside for all the work he can get by pushing the new work as well as the old, is by far preferable to the plan of making a charge against every patient of a few dollars and having some fellow put a patient in the hospital, riding the hospital for several times the laboratory fee as is done wherever that system

is used, thus causing no end of discussion and discontent. That system also is a great temptation to have this work done by more technicians instead of being done or directed by men who are not only specialists in their particular field, but are clinicians as well and one who feels that he has a particular place to fill and that he can develop for himself, rather than be a mere hireling.

The salient features of the "King's Daughters' Plan" are as follows: These departments are not conducted with a view of profit to the hospital, the hospital having nothing to do with the finances of these departments, but the departments are subsidized by the hospital in that they are given free space, with heat, light, and janitor's services. The only object of the hospital is to see that patients get the services they should have, and the department be ready for service at all times. The directors are permitted and encouraged to secure all outside work as a stimulant to do more and better work. The Department of Pathology is paid a salary by the clinicians, and charges for this service are absorbed by the clinician and passed on to the patient in his general charge, thus avoiding discontent of patients on account of multiplicity of extras, and relief of embarrassment to those unable to pay all that it might amount to. The clinicians have not been bankrupted by this plan and the directors feel that they have been fairly treated and the patient has received the service he should have, even though he is neither pauper nor millionaire.

Now in conclusion permit me to say it is up to the clinicians, more especially the surgeons, to realize that their work is not complete without these departments and that we will get out of them pretty much what we put into them. If we expect these departments to give us what we want, we must make up our minds to give them reasonable compensation and utmost stimulation to take up the progressive things of these departments. The prospect of outside work is one of the greatest incentives that can be offered.

APPRAISING OF CASE RECORDS

JOHN A. WOLFER, M.D., CHICAGO

Assistant Professor of Surgery, Northwestern University Medical School; Adjunct Surgeon, Wesley Memorial Hospital; Member of Committee on History Review, American College of Surgeons

AND

W. C. DANFORTH, M.D., EVANSTON, ILLINOIS

Associate Professor of Gynecology, Northwestern University Medical School; Attending Gynecologist and Obstetrician, Evanston Hospital; Member of Committee on History Review, American College of Surgeons

THE appraising of records which have been sent to the American College of Surgeons by applicants has offered the members of the committee an almost boundless opportunity to

form definite opinions as to the necessity, character, and purpose of histories. The committee has been criticized from time to time and in some instances these criticisms have been just and con-

structive, but in many instances they have been to the contrary. It is, therefore, desirable that the College go on record in definite terms as to the purpose, definition, and scope of clinical records.

The question may be frankly placed before you, what is a history? And what is its purpose? It may be well to answer the second question first. The purpose of a history is to keep on file as a permanent record all findings and data which lead to a correct diagnosis, detail the type and method of treatment, and the results of each individual case. Also, the incorporation of certain facts which may apparently have no necessary relation to the individual case, but which may be of benefit in the study of clinical medicine and to the advancement of scientific knowledge. This latter seems to be overlooked by a large percentage of surgeons. As an example, in the past history of an individual it might be of interest to note the association of certain pre-existing diseases to the disease which brings the patient to the surgeon. Infectious diseases, we believe, have a distinct bearing as an etiological factor in the production of certain chronic diseases, such as gall-bladder disease, kidney disease, and many others. In a large series of cases, of such a study, records which contain all this data are of distinct value, yet when definite data of pre-existing diseases is lacking, they are practically useless. I am positive that, if there were placed before any member of this audience one thousand complete records of duodenal ulcer, a careful analysis of the past history in these cases not only would be very interesting, but would bring forth some astounding information.

It seems almost folly to be asked to give a definition of a history. A history should be the assemblage of all information obtained from a patient by any means utilized by the clinician, in making a diagnosis, all observations made upon the patient, whether clinical or laboratory, all operative procedures or otherwise, which are employed as a curative or palliative means, and the results obtained. Of necessity, therefore, one surgeon's history will be much more comprehensive and valuable than another's. This will depend upon the scientific knowledge, the industry, and imagination of the individual surgeon. For this reason, the histories which are submitted by various applicants give the reviewers a more or less definite idea as to the caliber of the man, both as to his ability to analyze and diagnose a case, and his ability to apply the proper treatment. His scientific knowledge and the ability to apply it and his surgical judgment will, therefore, be rather apparent.

We are frequently asked by applicants, "What does the College mean by a complete record?" or "What kind of a history do you want?" or "Into how much detail shall my histories go?" In view of what has just been said, no doubt these questions are answered. Nevertheless, let me impress upon you the fact that a history is a history whether it is to be filed in the records of the hospital or whether it is to be submitted to the American College of Surgeons as one of the qualifications for admittance. Only recently in looking over the correspondence of an applicant who is a graduate of one of the most prominent eastern schools and who has served an internship in one of Boston's most famous hospitals, the following paragraph was noted: "Enclosed herewith please find ten case records, reported according to instructions outlined in your letter of September 19th. In my defense, let me explain that I was never certain as to the method required in reporting these cases. I fully realize that the words 'negative' and 'normal' are not acceptable in a history taken in a modern clinic. However, in these case records, submitted for the Fellowship, I understood that brevity was desired, and only the principal points of the case were to be recorded. I regret the misunderstanding, and trust the enclosed ten records will fill the requirements." This man did not realize that a history is a history whether it be in his hospital or in the office of the American College of Surgeons. I am informed upon good authority that many applicants have doctored up their records solely for the purpose of gaining admittance to the American College of Surgeons. This is a very grave situation and certainly deserves most serious consideration on the part of the Regents of the American College of Surgeons. In a certain number of instances, the reviewers are able to detect this type of history but it is my belief that a number have passed through our hands and the applicants are admitted with full credit. It is common knowledge in many communities that this pernicious habit is in vogue and the College is very severely criticized for accepting a man who is dishonorable. If the applicant would really profit by this act and would henceforth study his cases and prepare his histories in conformity with the histories that he has "doctored," some good might come from the act, but unfortunately a man who would stoop to such an act will gain nothing by it. Furthermore, it has been brought to our attention that certain men have gone so far as to seek the counsel of recent internes to write histories which are complete, using for a basis a case upon which a certain operation has

been performed. These histories were prepared solely from the scientific knowledge this young man might have had and his ability to recite the clinical history and laboratory findings of such pathology although he had never seen the patient. These histories are then submitted to the American College of Surgeons. Gentlemen, I ask you, shall we allow this condition to continue? How are we going to prevent it? I place this subject before you with all seriousness and with the hope that something definite can be done whereby such conditions may be avoided. It seems almost inconceivable that such questions as mentioned before should be asked when the average junior medical student in practically any medical school knows what the essentials of history taking are.

No doubt many competent surgeons are at a loss to know whether the entire history they have taken in the hospital should be submitted to the College. It seemed, therefore, wise to prepare a set of rules to guide applicants in the preparation of their records to be submitted to the College. It would seem to me that the procedure of preparation which has been supplied by the College was meant for this group of men and not for a certain number who must be taught the method of history taking. A few years ago a procedure of preparation of case histories by candidates for fellowship in the American College of Surgeons was prepared. I shall briefly endeavor to clarify the fourteen points incorporated in this procedure.

First, the identity of the patient, case number, initials, name of hospital, color, age, occupation, dates of admission, operation, and discharge from the hospital. I think this group is self explanatory with the possible exception of occupation. The knowledge of occupational diseases at times plays a very prominent rôle in the establishment of a diagnosis, and it would seem to us necessary, when the occasion demands it, to go into detail. Under this may be included changes of residence, which again might influence the diagnosis.

In the second division should be incorporated briefly the chief complaint of the patient on admission. Following this should be the details of the present illness. In the average histories submitted by the applicants, this is given in an entirely inadequate fashion. In this part should be given the story of the disease, as to the onset, the progress and changes in the symptoms, a careful description of the symptoms, and the association of one symptom to another. In many instances we are told that the patient has pain in the abdomen; the pain is not described as to its nature, its location, or its radiation. We are not told of

the relation of pain to vomiting, to the taking of food, to the act or desire of urination, and many other things which are desirable to know. No doubt many of these questions are *asked*, but the answers are not incorporated in the history. If they are *not* asked, one can readily see a prolific source of error. It is advised that the patient be allowed to tell his story in his own way, uninterrupted if possible, because, only too often a surgeon is liable to make a diagnosis before thoroughly questioning and examining his patient and then, in order to verify his diagnosis, will, unconsciously, obtain a history which will justify his preliminary diagnosis. After the story has been recited by the patient, a systematic course of questioning of the patient in regards to individual symptoms and their association to other symptoms is in order. This data should all be incorporated in the history for the reason that the information obtained at times is most valuable in explaining certain postoperative complications and sequella, as well as in making a correct diagnosis.

In the fourth division is to be recorded the past history of the patient and this again is a frequent omission, at least, so far as any definite information is concerned. We see recorded such statements as: "past history irrelevant." Such statements are absurd, because a past history cannot be irrelevant. It may appear to the history taker that no illness, accident, or operation in the past can be a causative factor, apparently, in the present complaint, but that in itself may have a distinct influence upon coming to a conclusion. We are also informed that the past history is "negative." Such "catch phrases" as "irrelevant," "normal," or "negative" should never be used in a history. There is no way in which the reader of the history, or even the writer of the history, at some future time, can determine to what extent the questioning or examination has been carried. Again we are told that "the patient had the usual diseases of childhood." I heartily agree with our dearly beloved Dr. W. W. Keen, who states that there should be not "the usual diseases, but the usual 'health of childhood.'" Nevertheless, if during childhood the patient has had certain diseases, they should not only be definitely mentioned, but studied, since it is common knowledge that many of the acute infectious diseases leave certain organs impaired. A youth may, during an ordinary attack of mumps, develop acute abdominal pain with digestive disturbances which persist for a variable length of time. This can be, and most likely is, due to a metastatic pancreatic infection, sec-

ondary to the parotid infection. In certain instances when, during childhood, the disease has been unduly violent, the symptoms should be carefully analyzed. That disease may have been the forerunner of subsequent pathology. Therefore, the past history of the patient should be recorded in definite statements, each of which is the answer to a definite question asked. Only in this way can we hope to procure precise and valuable information. This must also apply to the next group—or the family group. If we ever hope to associate certain diseases to some hereditary cause, we must have at hand a very large series of carefully prepared histories in which especial attention is given to the family history.

Now is to be recorded the physical examination, which is to be a complete detailed description of the physical findings by regions and systems. In more than 50 per cent of the records which are submitted to the College for approval, the physical examination is inadequate, and it seems almost beyond human comprehension that any man who claims to be a surgeon would dare to make a surgical diagnosis and operate upon a patient with so little information. In many instances the only examination recorded is that examination of the anatomical region which appears to be involved in the pathological process. The examiner apparently fails to realize that his patient has other anatomical regions which may be involved in a similar process or other processes which have a distinct bearing upon the disease from which the patient seeks relief. This can be readily exemplified by the association of a chronic myocarditis with a chronic gall-bladder infection; or the association of a latent pulmonary tuberculosis with any surgical lesion, especially one of a tuberculous nature. In fact, any failure in obtaining complete information may result in disaster, such as: administering a long ether anæsthetic to a patient who has a quiescent pulmonary tuberculosis, or other such avoidable catastrophies. Here again we find incorporated in the history so frequently the phrases "negative" and "normal." As an example we read, "the eyes are negative." This gives no concrete information for the reason that there is no way to determine whether the examiner tested the pupillary reflex to light and accommodation, whether he observed the pupils to be equal and regular, whether an ophthalmoscopic examination was made, whether he tested for muscular weakness or paralysis, whether a nystagmus was looked for, whether the field of vision was taken, and sundry other things. This detail in examination applies to any region of the body. Many institutions

prepare special blanks to record physical examinations, simply giving space for an answer to positive or negative. We feel that this should be discouraged for the reasons set forth above. It promotes haste. It encourages errors. It is not conducive to careful examination and gives very little concrete information to the reader of the history.

All laboratory work which has been done should be recorded. The question often arises as to how much laboratory work is essential. This can only be answered by saying that we expect the necessary laboratory work for making a correct diagnosis. It must always be understood that a patient may be suffering from more than one disease. Some men feel that they can arrive at a diagnosis without any laboratory work. This, of course, we do not sanction. It is uniformly accepted, for instance, in making a gastrointestinal diagnosis that, aside from the routine urine examination, blood count, and Wassermann reaction, there should be an examination of the gastric contents, stool examination, and a gastrointestinal X-ray examination. It would seem that these are necessary to avoid possible error. Certain men who are interested in gastrointestinal diagnosis and especially in gastrointestinal research may go much further, their idea being to advance the frontiers of medicine in this department. Any especial laboratory work which is required, such as blood cultures, sputum examination, bacteriological and chemical examination of the urine following urethral catheterization, and spinal fluid examination, X-ray reports in fractures and diseases of bone, and the like, should of necessity be incorporated. We frequently hear the complaint that the surgeon has not the facilities for laboratory work. We must confess that this possibility may happen at times, but we find that the man who is more or less isolated from surgical association and modern hospital facilities usually devises some means whereby he can have the necessary laboratory work done, *if* he is of the caliber deserving the Fellowship. Again it may be pertinent to insert that the urine should not be reported "normal" or "negative."

After the above mentioned data has been obtained, the working diagnosis should be recorded since treatment must be advised and some conclusions must have been reached as to what disease the patient is suffering from. This is a frequent omission in histories. It is well to impress upon you the necessity of making a definite pre-operative diagnosis rather than to state that the patient is suffering from a surgical lesion, for the

reason that it stimulates not only the surgeon himself, but his assistants and internes, to more careful and painstaking study and, no doubt, a certain number of unnecessary surgical operations will be avoided.

If an operation is performed, the description of this procedure should be given in definite language. Aside from the anæsthesia used and the duration of the operation, there should be included, first, the technic of the operation. It seems better judgment to describe the technic in detail rather than to designate the operation by some operator's name. The reason for this, I believe, is apparent to all of you. The description of the operative findings should be given under two general headings, the "essential pathology" and the "exploratory findings." Under the essential pathology should be a description of the pathological process as it appears while it is still intact and not devoid of circulation or physical contact with the body. This is very important since it aids very materially in the anatomical diagnosis. It is no more important, however, than the exploratory findings. A record of this portion of the findings is uniformly absent in the histories submitted to the College—or is designated as "negative" and "normal." In most circumstances it is very important to know which organs have been explored and what the findings have been. When we read in a history that "the other organs were normal," we are at a loss to know just which organs were explored and to what extent they were observed. As an example, in abdominal operations, if the pancreas is investigated, it is desirable to know whether the pancreas was simply palpated or whether there was sufficient exposure to see the pancreas and to feel it throughout its entire length. The same applies to the pelvic organs and other organs of the body. It has probably been everyone's experience, in looking over a history of a patient who has had a laparotomy in the recent past, to be somewhat confused as to the exact findings at the time of the previous operation unless there is an accurate description of all exploratory findings. We read frequently in histories that the patient complained of pain in the region of the appendix and without further examination the appendix is removed. It is not stated to what extent the appendix is diseased, and the reader of the history wonders whether the patient might not have had a kidney stone, a tubal pregnancy, a gall-bladder infection, or any other one of a host of affections which might have been the cause of the pain.

The description of the gross pathology should include the description of the tissues and organs

after they are removed from the body; the microscopic examination of the tissues should be reported in detail as to changes in the individual components of the structure examined. Here again we must depend upon the judgment of the surgeon and more so upon the pathologist for an accurate diagnosis. A final diagnosis is now in order and should be now recorded on the history.

Progress notes should always be made on the record. This is most essential in those cases in which complications arise, or in which something mars the ordinary smoothness of convalescence. It not only gives valuable information for the present but not infrequently aids the surgeon in diagnosing conditions which arise late in convalescence. Well-kept daily notes very frequently assist the surgeon in arriving at a conclusion regarding subsequent diseases which may have been a part of, or which may have complicated the original pathology, or which may be a distinctly new process, the inception of which arose at the time of the operation. The nurses' notes should not be included with the exception of probably a brief summary of the changes in temperature, pulse, and respirations, or certain other specific information which has a distinct bearing upon the notes made by the physician.

The condition on discharge should be specifically stated. If the patient has completely recovered from all symptoms which he complained of while in the hospital, it should be so stated. If he has simply improved, a specific statement should be made as to which symptoms have disappeared and which have not, or which symptoms may have been improved but not entirely relieved. This, to us, seems important in so much as the word "improved" is indefinite unless it is associated with distinct symptoms or findings. Follow-up notes should be a part of the history.

In order to prepare such histories as I have described, you will all agree with me that each patient must receive most painstaking, honest, and scientific study. This infinite ability for taking pains must bring the best results to every patient. Gentlemen, we are here for one purpose: to uphold the standards of the American College of Surgeons. Our standards aim to light the way to ideal surgery throughout the world. Let us, therefore, insist upon better records as a concrete means to attain this end.

DR. DANFORTH

An experience of seven years in the examination of case records submitted by aspirants for admission to the College of Surgeons in gynecology and obstetrics makes it possible to indicate a few of the

more striking and common defects which such histories present and at the same time to suggest what properly prepared records in this branch of surgery should contain. As the histories which come to our notice presumably are submitted by the more earnest and ambitious men, it is natural that we should find among them some which are examples of all that such records should be. Applicants from certain of the well-known clinics and hospitals invariably submit records of this character. This seems to speak very decidedly in favor of the value of systematic training after graduation as interne and assistant under superiors who demand that thorough work should be done. Our observation shows that such institutions succeed in developing orderly and thorough clinical habits far more regularly than others in which insistence upon careful and painstaking work is apparently not a characteristic.

The first step in the production of adequate records is the provision of supervision in the form of chiefs of service or senior attending men who know from personal experience how to make proper records based on adequate examination, and who do not, later on, fail to demand that proper records shall be made by those who come to acquire experience in junior capacities under them.

What are the essentials of a proper gynecological or obstetrical history? Let us consider the obstetrical history first.

The great outstanding defect of many histories which we see is the failure of the applicant to remember that he is dealing with an individual who may have any of the ills and physical defects from which any woman may suffer and who is at the same time pregnant. Too often the pregnancy alone occupies the mind. Again it is startling to see the frequency with which facts of the most fundamental importance regarding the pregnancy itself escape record.

A properly prepared obstetric record contains first of all a history of previous illnesses, operations, etc., precisely as a medical or surgical history should do. It is indispensable, in order that proper judgment may be arrived at in cases requiring some form of surgical intervention at the termination of pregnancy, or intervention during pregnancy, that full information concerning all diseases and injuries be at hand, and that this be supplemented by a record of a complete physical examination, and that the findings elicited by examination should be on record. This will place at the obstetrician's command facts without which an adequate opinion as to the proper course to pursue is scarcely possible.

Has the woman a defective heart? What is the defect? How seriously does it compromise her circulation in early pregnancy? Should the pregnancy continue? What form of operative intervention would be best if any be decided upon? How can any of these be answered adequately without definite knowledge? Yet the number of histories coming to our scrutiny totally innocent of facts of such rudimentary importance as this is remarkable.

Definite facts as to the presence of pulmonary infection, particularly tuberculosis, should appear in sufficient detail. Infections, repeated tonsillitis, tooth infections, pelvic infections, phlebitis, all of which may render the woman a little more liable to complications of pregnancy or labor should be noted and their presence in the history may aid in minimizing blame attached to physicians or hospital in the event of complications, a point of some practical importance. Syphilis is carefully to be inquired into; if it has been present, the treatment which has been undergone and its results. In short, all information which might be of use in enabling one to make an accurate estimate of the patient's ability to undergo the strain incident to pregnancy and labor should appear, concisely and clearly stated.

As to information primarily of an obstetrical character, we have been struck by the frequency of omission of facts of great importance. For example, it would seem that no cesarean section for pelvic disproportion should ever be done without a record of measurements. Yet precisely this situation has appeared on the examiner's table of the College a number of times. For this sort of thing there can be no excuse, for even a man of indifferent training should be able to realize that such a record creates a most unfavorable impression. The absence of measurements on any obstetric history may at once be taken as an evidence of careless and slovenly work. The omission of such a fundamentally important piece of information can indicate nothing else.

Again, the woman who enters a hospital at the onset of labor should at once be looked over with a view to discovering whether any condition is present which increases the hazard of labor, and this even if she has been under observation before, for changes in her condition may have occurred. In a very few minutes one ascertains whether any signs of cardiac embarrassment are present, bronchitis or other pulmonary condition having a bearing on the administration of anæsthetics, or edema and increased blood pressure indicating the possibility of toxemia. On admission also we should find a note as to position, en-

gement, dilatation, character of pain, the length of time labor has lasted before admission, whether the bag of waters has ruptured or not, and of course, information as to any procedure carried out before admission, if anything has been done.

Our experience with histories submitted for candidacy shows that the above requirements are not met in many places. Many histories come to us on the printed forms of hospitals. Not uncommonly such records convey to us the information that a certain woman entered the hospital, passed through the first and second stage of labor, delivered a baby and placenta, received some form of repair for an undescribed laceration and ultimately went home. Such records are of little value to anyone, least of all to the man who submits them as a basis for admission to the College. They give an unfavorable impression of the hospital and cause irritation in the minds of the applicant and his friends when a request is made for further and more carefully prepared reports. In short, the obstetric history should contain exactly the same data, based upon careful anamnesis and physical examination that the well-prepared surgical or medical history does, except that these may appear in less detail, and, in addition, evidence of investigation of those factors peculiar to pregnancy. Inspection of the history forms of well-managed hospitals shows that the importance of these things is appreciated.

The obstetric history should give such information regarding the labor that one reading it years later may have no difficulty in visualizing exactly what happened. May we emphasize here, too, that an applicant who submits a set of records in obstetrics alone should not expect to include more than twenty per cent of normal deliveries. Any one who desires to enter as an obstetric specialist or obstetric surgeon must surely have had enough obstetric operations to complete the very reasonable number of records the College demands. The man who submits a set of histories in obstetrics exclusively should not have more than twenty per cent of normal cases. To admit a complete set of normal obstetric cases is to ask for nothing that any family physician of very moderate practice could not easily supply. It should be remembered that the records are supposed to give an idea of the extent of the applicant's experience as well as of his operative skill.

To give a fairly clear idea of the progress of a labor does not require great expenditure of time or effort. A brief note as to when labor began, frequency and strength of pains, the character of labor when admitted to the hospital, and at that time the exact status of the case.

From that time on progress may be shown by recording the time of each examination, by whom made, whether rectal or vaginal, and findings. A simple box on the hospital sheet is a convenient method of doing this.

The end of the first stage or the beginning of the second should appear and the progress should again be shown as before. The character of the delivery, normal or operative, with sufficient detail in case operation is done to describe it accurately. In many of the histories we see the operative maneuver is merely named. In *cæ*-sarean sections the location of the incision, length, whether the uterus was eventrated or opened *in situ*, location of placenta, character of closure of uterine wound, and whether sterilization was done, should all appear clearly stated.

It is essential that injuries should be described sufficiently clearly that the reader of the record later may know exactly what happened, and measures adopted for repair require exact notation, including the number of non-absorbable sutures, if any are used, in order that a later record of the number removed may correspond with it.

In the third stage we need information as to length, amount of blood loss, how the placenta was delivered, whether intact or not, and medication or other measures adopted for control of bleeding. Merely to pass all this over with the statement that the third stage is normal is not sufficient. For example, undue bleeding later might cause one to consult the record to ascertain whether the placenta came away completely or whether a portion still remained in the uterus, and if so, how much. Again, the principle that the record is to contain all facts which may assist the surgeon in bringing the patient safely through, applies with force.

Again, a lack which is far too often seen is the failure to include any information as to the condition of the child. If it appears in any way abnormal, or if any injury has been sustained, it should be noted. In many well-ordered services, measurements of the head of the newborn child are a part of the record. On our own service we have found that this takes but little time, the interne doing it at once on completion of the case.

In my opinion the gynecologist and obstetrician, who is a surgical specialist, has no business whatever to attempt pediatrics, which is a medical specialty, but he can leave some intelligent record of what he saw immediately after the delivery of the child for the benefit of his colleague, who may see it later, and for the benefit of the child, who may need further care.

The gynecologic history is simply the surgical history, prepared from the point of view of the special surgeon and with the desire to bring out those points which bear particularly upon diseases of women. To this end the history should bring out especially facts pertaining to any intra-abdominal infection in the growing girl, which may be the cause of later pathology in the pelvis. Other infections, such as tonsils, teeth, and so on, are important, as they may cause, for example, the frequent backache of which the gynecologist's patients complain. A clear, concise statement of the menstrual history in health, to establish a base-line by which later deviations due to disease may be measured, is essential. Later variations from the normal should appear specifically described, which can usually be done at no great length. The frequency with which the simple expression "uterine bleeding" or "vaginal bleeding" appears in histories seen by us is still entirely too great. Many of these histories do not state whether the bleeding is at the menstrual time or not, whether regular or irregular or continuous; in short, do not permit one to gain from the statement found the exact character of the bleeding, naturally a fact of paramount importance. Invariably one should find the time at which a deviation from normal first appeared, what it was, what has happened since, is the bleeding regular, irregular, or continuous, at the period or not, odor if any, and whether any other discharge co-exists or alternates with it.

Careful inquiry as to any symptoms referable to the urinary tract should be recorded, with notes as to specific facts elicited, which often have an important bearing on the trouble from which the patient suffers. Frequently the sufferer from pelvic infection will give a history of urinary discomfort as the first sign of her trouble.

A description of labors, number, character, whether long, short, spontaneous, or operative, whether accompanied by much or little injury, and whether or not the puerperium was afebrile. Abortion and premature labors must appear. The number of abortions, whether terminating spontaneously or by instrumental means and whether accompanied by fever, and particularly, if a history of criminal abortion can be elicited, specific statements as to the method used and whether infection followed is of importance.

Backache, where, when, character, relation to activity, and duration; not the mere statement that backache exists. Many of these cases are not pelvic backache at all. Enough for intelligent differentiation is needed.

Change in size and contour of the abdomen and exact statements as to any protrusion from the genital tract are so important that discussion is needless.

The above are merely a few of the most completely necessary facts. Space does not allow too long discussion.

As to physical examination of our gynecological patient let us say at the outset that the well-trained examiner does not forget that he has before him an entire human organism which contains, in addition to a number of other anatomical structures, the female generative tract, and the mere fact that the latter is present is not proof positive that it is the cause of the discomfort which brings the woman to the doctor. A complete physical examination is an absolutely indispensable part of any gynecologic history, as it is of any sort of medical or surgical history. An absence of this on our examining table without exception prejudices us against the candidate, and justly so, for it appears that he operates without due care to distinguish between conditions which really demand the application of pelvic surgery and those which are better managed otherwise, or which, perhaps, had best be sent to the internist, throat specialist, or elsewhere. The written case record will distinguish between the true surgeon and the mere operator. The former is concerned in discovering exactly what is needed for the relief of the woman whom the record concerns, even though that relief is to be obtained by means other than surgical and by individuals working in fields not his own. The latter is a mere technician, and, judging from the large amount of material which has passed under our scrutiny, not in every instance a perfect one.

We will not go into the question of the general physical examination, but will assume that this has been made and recorded, and will pass at once to the question of gynecologic examination. Here, as indeed everywhere else in scientific records, orderliness, clearness, and conciseness of statement, are important.

The ordinary pelvic examination should give a brief word picture of the findings in orderly and systematic fashion. Such a statement as "pelvic examination shows fibroid," as one candidate recently recorded in one of his submitted histories, requires no comment. Such a brief yet comprehensive and systematic statement as the following is well within the power of any man who deserves admission to fellowship:

Date.

Vulva—normal.

Urethra and Skene's Glands—normal.

Vagina—mucosa normal—moderate cystocele—marked rectocele—sphincter good.

Cervix—size and color normal. Right lateral laceration 1 cm. deep—moderate ectropion—erosion radius of 1 cm. around ext. os.

Fundus—size—position—mobility—normal.

Adnexæ—left normal; right—ovoid movable mass 15 cm. diam.—apparently ovarian cyst.

Advice—Perineal repair; excision of ovarian cyst.

Signature.

This may be amplified to give in especial detail any important facts. We suggest that consultants record their findings in similar form. Most of the records we see ignore altogether any note as to the urethra and Skene's glands, yet these are often most valuable indicators of an infection, present or past.

Degrees of descent, deviations from the normal of the cervix, particularly such as may suggest malignancy, should be set down clearly.

New growths should be described sufficiently that one may obtain a clear impression of what is present. The size, consistency, shape, mobility, and relationship to uterus or ovary may be adequately indicated without great demand upon either time or space.

When the record concerns a malignant growth, the examination should disclose the apparent extent of the growth, degree of fixation of the uterus, and the appearance of the visible portion of the tumor.

The absence of ordinary laboratory work in a small portion of our material would indicate that we must still insist upon at least the usual routine clinical tests. Failure to include these in a series of histories can only give an impression of incomplete work.

Leucocyte counts must always appear in records of cases involving infection. Allowance may be made for the locality in which the work represented by a set of records is done, but any applicant working in an institution of proper equipment should show, in addition to routine urine and blood reports, records of kidney function, blood chemistry, and basal metabolism when a legitimate reason exists for their employment.

The operative record indicates exactly what was done and how. The character of incision is briefly noted. The pathology in the pelvis should be accurately described, and in detail sufficient to enable one later to form an opinion as to the propriety of the procedure. The relation of pelvic pathology to other organs, adhesions, and any other facts needed to give a clear picture must appear. The operation requires detailed notation.

Very often we find the operation dismissed with such a brief statement as "supra-vaginal hysterectomy," for example, omitting to state whether the tubes and ovaries were removed or not, and what technic was used to cover the stump. This woman may re-enter the hospital in later years. She is entitled to find there a clear statement of what was done for the guidance of her medical attendant and for her own benefit. Operations for retroversion, which, it may be said in passing are far too frequently done, should be described and the technic used carefully noted. The woman may be pregnant later and it may be of importance to know what was done.

In cases in which exploration of other parts of the abdomen is done, which should be routine in clean cases, the condition of the gall-bladder especially should be recorded, and the position and apparent size of the kidneys. The appendix should be described, whether removed or not.

Vaginal operations require description in the same manner with clear statements as to technic. Although not discussing the treatment of surgical conditions may I digress an instant to remark that in some localities, as judged from our submitted material, the curette still seems to be an over-popular instrument.

In discussing gynecologic operative records it must be emphasized that when using radium, the mere statement that radium was used is valueless. The record must show certain definite facts, the place where the radium was applied, the amount, the length of time applied, and the screening. This gives a clear idea of the dosage. It may be briefly set down as "Radium 50 mgms. placed in corpus uteri, 24 hours, 1/2 mm. silver, 1 mm. brass—rubber."

When cervical cancer is being treated and needles as well as tubes are used, their points of insertion should be indicated. Sometimes a simple rough diagram may be of use.

Every record should show a description of tissue removed. This should be given both grossly and microscopically. The absence of this is painfully frequent in records which come to us. Again, the right of the woman concerned to have a clear statement of all important facts on record for possible later need must be emphasized. In hospitals which possess pathologists this is easily done. In other smaller institutions it is not unreasonable to suggest that the young surgical specialist himself, whose time is certainly in all instances not entirely filled, might supply such observations himself, incidentally acquiring some additional experience in pathology. Instances of this are not unknown in medical history.

A follow-up is important in both obstetrics and gynecology. In our own service we have obtained valuable information as to the merits of different methods of perineal repair after labor by the routine examination eight weeks later of large numbers of cases. The same is true of any operative procedure. It must stand or fall by its results, but without later re-examination results cannot be known.

In records coming to us from applicants working in the better organized institutions follow-up records are found with gratifying frequency. In others, again, they are far too often absent. It is scarcely an excuse, however, for the younger and less occupied operator to urge that his institution does not make provision for such service. Experience shows that the woman who has been delivered or operated upon will respond almost invariably to a request to visit the surgeon's office at a

stated time for final examination and revision of the record. The writer still finds it possible, in the midst of an absorbing activity in this field, to make and record such an examination of each case. Not one patient in twenty fails to come and most of them seem to appreciate an interest in their later welfare.

To sum up, the gynecologic or obstetric history should be a complete record, as should any sort of history, and in addition to a general physical examination, should show an orderly, systematic, and clear exposition of pelvic findings or obstetric conditions, a clear description of the operation or labor, a clear description of surgical pathology, notes as to the gross and microscopic pathology of tissues removed, and some sort of later record serving to show in what condition the woman is after labor or what sort of result she obtained from her operation.

THE WORK OF THE COMMITTEE ON HISTORY REVIEW AS RELATED TO THE APPRAISING OF CASE RECORDS

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EACH candidate who applies for Fellowship in the College pursues a definite routine program before a final decision is reached.

He makes application to the College and fills in an application blank that is sent to him. The College then endeavors to verify the statements recorded in this blank by asking for confidential information from Fellows living in the same community.

When this data is complete the candidate's papers are presented to the Credentials Committee of the state or province in which he resides. This Committee is composed of various Fellows of the state and there are frequently members among them who are personally acquainted with the candidate and who can give first-hand information about him.

The Credentials Committees in the various states and provinces are composed of from 13 to 37 members, averaging about 25. During the past year these committees have been very active, averaging from two-thirds to three-quarters present of their total membership. In Ohio there were twenty-nine present of the thirty; in New York, of twenty-seven there were twenty-five present. It is in these committees that the first sifting of candidates and the most important sifting of candidates occurs.

In one state, for instance, there were thirty-eight names presented—thirty-eight who wanted to be Fellows of the College—and eleven were recommended for examination in the regular way.

Since January 1, 1923, all candidates, regardless of age, who have been favorably considered by the State Committee on Credentials, are required to submit to the Committee on History Reviews fifty complete case histories of major work and fifty case histories in brief abstract. Applicants over forty years of age may have these histories prepared by assistants if they wish. The series of complete case histories should cover work done by the candidate; he shall have been the responsible surgeon and the work must be of comparatively recent date. The series of fifty cases in abstract may be of major work done by the candidate, or of work at which he has assisted, and may be taken from any period after graduation.

In the series of complete case histories there must be recorded the details of all data essential to enable the reviewers to judge with just what care each case has been studied and whether or not the surgical treatment given was justified, based upon that study. The following is a general outline of the data required by the Committee on History Reviews.

1. IDENTITY OF PATIENT—case number, initials, hospital, and date of operation.
2. COMPLAINT—on admission (briefly).
3. PRESENT ILLNESSES.
4. PAST HISTORY—illnesses, operations, accidents, etc.
5. FAMILY HISTORY.
6. PHYSICAL EXAMINATION—complete detailed description by regions and systems.
7. CLINICAL LABORATORY—X-ray and other findings.
8. PREOPERATIVE DIAGNOSIS and indications for operation.
9. OPERATION as performed and description of operative findings.
10. GROSS AND MICROSCOPIC description of tissues removed.
11. FINAL DIAGNOSIS.
12. PROGRESS NOTES during stay in hospital. It is not necessary to include nurses' bedside notes.
13. CONDITION ON DISCHARGE—recovered, improved, not improved, or died.
14. FOLLOW-UP NOTES since leaving hospital.

The forms compiled by the College and which are printed in its bulletin need not necessarily be used. Histories submitted upon any form or typewritten upon blank paper will be acceptable to the Committee, provided there are recorded in each history the essential data to show the complete study and care of the case.

When completed these case histories are received by the College and are then referred to the Committee on History Reviews.

The Committee on History Reviews consists of thirty-seven surgeons, grouped according to the various specialties, such as general surgery, genito-urinary, nose and throat, etc. Among the men on this committee are: Dr. A. J. Ochsner, who is Chairman, Dr. Kellogg Speed, Dr. D. B. Phemister, Dr. Allen B. Kanavel, Dr. Hugh McKenna, Dr. Harry Mock, Dr. William C. Danforth, Dr. Channing Barrett, Dr. Frederick Besley, Dr. William Cubbins, Dr. E. K. Findlay, Dr. S. C. Plummer and Dr. A. N. Murray. All of the men composing the committee are busy surgeons with teaching appointments in medical universities, who give the time to the College without pay.

The Committee meets at the executive offices of the College regularly one evening a week throughout the entire year, and during the months immediately preceding the convocation it meets as often as three times a week in order to be able to complete the review of the large num-

ber of records that reach the office only a short time before the final date for the closing of the lists for the year.

At each meeting a series of from two to four sets of histories are reviewed very thoroughly by each member, and when any unusual points come up, these are discussed with other members of the committee. A report is then made whether "accepted" or "rejected." If rejected, reasons are given and recommendations made as to future procedures on the part of the candidate. He may be asked, for instance, if doing insufficient surgery to wait one or two years and then submit another complete set. Or, in case the histories are only partly deficient, he may be asked for, say, twenty to thirty additional histories with the faults corrected.

These reports are then transcribed into letters by the Central Committee office and sent to the candidate. When the second sets are received they are reviewed in the same manner. Some of these sets may also be rejected, and a third set asked for. If, however, it is seen that there is no improvement in the quality of the histories in the different sets, it is recommended by the committee that no further sets be asked for and that the candidate be rejected permanently.

Since the convocation in October, 1923, the Committee reviewed 438 histories. Of these there were 345 first sets, 77 second sets, 15 third sets, and one fourth set. Of the total number of first sets received, 64 per cent were accepted and 36 per cent not accepted. Of the 77 second sets received, 76 per cent were accepted and 24 per cent rejected. Of the 15 third sets, 80 per cent were accepted and 20 per cent not accepted. The one fourth set received was accepted. It will be noted, then, that a little more than one-third of the sets are rejected. This per cent is low as compared to the former years, chiefly because of the excellent work being done by the various state and provincial credentials committees, who are passing much more satisfactorily upon the fitness of the candidates before they are asked to submit histories. Another reason, we believe, is that they are being more thoroughly instructed in the proper recording of case histories. It is quite evident from the quality of histories that we see at present with those submitted three or four years ago that the hospital standardization program is yielding definite results insofar as the recording of case histories is concerned.

We wish to emphasize that the Committee on Case Histories is a serious body of men, who are actually doing their utmost to judge the true quality of all case histories submitted to the Col-

lege. We know of no instance where histories have been accepted for any other reason than for fitness. Whenever a candidate's history is received and this candidate is personally known to the reviewer, he then refers this record to some other member on the committee who is not acquainted with the candidate.

The report of our committee, together with all other accumulated evidence received, is brought before the Central Credentials Committee of the

College. This committee, as a higher court, studies in detail the records of each candidate, balances all the evidence on file in regard to his qualifications, and makes its recommendation.

So, in conclusion, we should like to emphasize that these committees are working; they are bodies of men who are working seriously to improve the quality of the records and the quality of the men being admitted to Fellowship

ESSENTIALS FOR AN EFFICIENT SURGICAL SERVICE IN A HOSPITAL

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PERMIT me first to express my high appreciation of the value of these conferences in the past in promoting the work of hospitals, in stimulating to higher ideals, in arousing ambition to greater endeavors, in the correction of many evils and faults, and in every way furthering progress in the care of the sick.

Much credit is due the American College of Surgeons for its very effective work in the standardization of hospitals; a great deal has been accomplished throughout the entire country in the improvement of hospitals, both large and small. Attention has been forcibly called to many defects and one needs but to look about him to see the great changes for the better that have taken place. In fact so much good has been accomplished, that its value can scarcely be overestimated, and the efforts at improvements continue and bid fair to still further add to the results already apparent.

The writer can scarcely hope to contribute anything of much value to what has been published in the voluminous literature of the last few years, by the able surgeons who have described their methods of conducting hospital services, and most of what I shall say will probably be but a reiteration of statements made by others. Doubtless also, the many platitudes that will be uttered will weary you.

The essentials for an efficient surgical service in a hospital will be considered under several headings, and in the brief time that I shall ask you to bear with me, only generalizations will be considered, and these have been selected more or less at random. An endeavor will be made to state some fundamental principles which seem to me to be correct.

1. Single head—with graded associates. The duties, privileges, and prerogatives of all the

staff to be more or less definitely outlined. Team work and co-operation are thus favored. Local conditions and established traditions may render it difficult or impossible to effect such an organization, however.

2. Continuous service—The former plan of 3 to 4 months' service is now regarded pretty generally as being for many reasons undesirable, for the reason that there is a lack of continuity of methods and technique. No definite policy can be pursued when there is frequent shifting of personnel, and clinical research is not as feasible as with continuous service. Periodical changes upset everything.
3. Systematization and routinization as far as possible in all details and particulars. Standardization of technique—not however to the extent of sacrificing individual initiative. For example in the operating room, the general organization is to be under the supervision of the surgeon—with a head nurse or supervisor who is more or less permanent. No undue shifting of personnel; when this is necessary there should be graduation. In large hospitals there may be more than one division, or unit, and each of these of course should have its separate head, with the proper organization of the staff, nursing personnel, etc. The complicated methods of diagnosis necessitate a large staff—with various specialists.

Anæsthetist: Possibly the ideal plan would be to have a specialist in anæsthesia, a medical man, who devotes his entire time to this work. Practically, I believe, the best plan is to have nurse anæsthetists.

Resident Surgeon: Next to the operator the value of a competent resident surgeon is scarcely

to be overestimated. He is always the first assistant of the operator.

Roentgenologist: He should be a medical man with special training in X-ray work. He must be able to give treatments.

Pathologist: He should be capable of doing all kinds of pathological work—or must have assistants who can do certain kinds, as for instance, the serological and chemical examinations. The importance of thorough examination of tissues removed at the time of operation is considerable, and the surgeon can derive much aid and advice from a reliable pathologist. Technicians are essential in the prosecution of the routine work. It is desirable to have small ward laboratories in which the routine work can be done. Pathology is the “weak spot” in many hospitals. It would seem desirable that the pathologist see the cases clinically—making rounds with the clinicians. Reports should be made promptly. Clinico-pathological conferences, at which the various aspects of the cases, specimens, and autopsy findings are discussed, are very valuable.

Records: It is, of course, needless to say anything about the importance of accurate records in the hospital. This subject has been much discussed and various methods of keeping records have been prescribed. I am unable to add anything of value. The records taken by internes and the laboratory findings must of course be read, corrected, and amplified by the surgeon. Unfortunately this is often neglected.

Conferences: At regular intervals there should be held conferences in which the entire surgical staff participates. Attendance upon these should be compulsory.

At these conferences the work of the hospital, diagnostic errors, fatalities, results of operations, etc., should be taken up with the purpose of endeavoring to improve the grade of the work done at the hospital. At these conferences, also, papers and abstracts of the literature might be read.

Internes: The hospital should be a training school for future surgeons. Probably hospitals

in which systematic instruction to medical students is given afford the best training. The service should be graded so that the incumbent reaches the position of resident surgeon in about three years.

Follow-Up System: A thoroughly organized follow-up system is essential in all hospitals. It is needless to say anything further about the necessity of this. Much credit is due to Codman of Boston and to other surgeons who have so strongly insisted upon the desirability of follow-up systems and have outlined their plans of procedure. Unfortunately in many hospitals the follow-up of cases is very much neglected. Much information could be gained and clinical research fostered by all large hospitals if follow-up systems were established.

Dentist: In the opinion of the writer there should be a dentist on the staff of every hospital. He should make regular visits and take care of such cases as demand dental attention.

Dispensary: It is obvious that every large hospital should have a dispensary. Some of the reasons for this are that it affords a good “feeder” for the hospital and is a source of economy, in that discharged cases from the hospital can be treated there, thus lessening the number of “bed days” in the hospital. The dispensary should be in charge of an experienced man, and in some way or other dispensary physicians and surgeons should have access to cases in the wards.

Lack of space prevents the consideration of many details in the operation room. Preoperative diagnoses should be made and recorded. At the close of every operation the findings and methods of procedure should be dictated or recorded. In a well organized and conducted operating room there should be no confusion and noise, and no “cussing” of assistants.

In conclusion, the writer would plead for accuracy and honesty in all the work of the hospital, and for the prosecution of investigative work.

ESSENTIALS FOR AN EFFICIENT OPHTHALMOLOGICAL AND OTO-LARYNGOLOGICAL SERVICE

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CONDITIONS surrounding the practice of medicine are in these days undergoing many changes. One of these changes is a multiplication of hospitals with the increase in

hospital practice. This applies to the special fields as well as to general medicine and general surgery. These changes have brought up new problems which demand our attention and one of

these is the organization and operation of special clinical departments for such fields as ophthalmology and oto-laryngology in our general hospitals. For many years there has been a tendency to regard these subjects as something more or less apart from general medicine with the result that we have seen the development of special hospitals devoted to these particular fields. In more recent years we have come to appreciate that a better place to care for eye, ear, nose, and throat patients is in a properly organized special department in a general hospital where other fields of medicine are adequately cared for. The ophthalmologist and oto-laryngologist are as little fitted, as a rule, to care for their patients when they chance to be suffering from such conditions as pneumonia, cardiac disease, or kidney trouble, as the internist would be in attempting to care for eye, ear, nose, and throat complaints.

General hospitals are beginning to recognize the need of developing special departments such as those of ophthalmology and oto-laryngology. It is to be expected that this need is more readily appreciated by men who are doing this special work than by men engaged in general practice or general surgery whose knowledge of the work going on in special fields must necessarily be more or less superficial. This lack of a fuller appreciation of what is actually being done by the ophthalmologist and oto-laryngologist is responsible for the perpetuation of a somewhat antiquated conception still held by some general practitioners and some general surgeons that with a little training in the operative technic of these fields they are competently fitted to do the surgery of the eye, ear, nose, and throat. Such men need to be reminded that operative technic in any of the special fields is but a small part of the training necessary in the preparation of the specialist in these fields and that a more important and much more difficult part is the training to make proper technical examinations and especially to be able to recognize the indications for operative work.

The first essential in the organizing of special clinical departments in ophthalmology and oto-laryngology in our general hospitals is to insist that the work in these special fields be taken care of by men properly prepared to do this work. The spectacle which one may witness any morning at many of our general hospitals where a list of general practitioners, pediatricians, and general surgeons is posted, each with his string of patients for nose and throat operations, reflects as little credit on the hospital management which permits such a thing as it does on the men who are indulging in this orgy of nose and throat opera-

ting. The increasing tendency for men prepared to do general practice, often with no further training in special fields than a smattering of technic for a few operations, to undertake to do the surgical work in the specialties has become one of the glaring abuses of modern medicine. I believe I am correct when I state that at the present time this particular abuse is greater in the field of oto-laryngology than for any other of the specialties. General practitioners, pediatricians, and general surgeons have been flocking to our clinics where they remain only long enough to pick up the technic of two or three of our operations, and then, with no opportunity for acquiring an appreciation of the proper indications for these operations, set out to do this work. Not infrequently such men assume the rôle of specialists in these subjects. Moreover, it is becoming increasingly common for internes in our general hospitals, as well as in children's hospitals, to demand that they be taught to do operations in the nose and throat.

The inevitable result of all this has been an unprecedented flooding of the country with indiscriminate, often unnecessary, operations in this special field. When I state that over 50 per cent of the patients referred to my office by physicians for supposed tonsil trouble are not found to have anything that requires correction, one can readily appreciate what is happening in tonsil work alone where the general practitioner, the pediatrician, or the general surgeon undertakes to do the operations in this special field. Operative work in any of the special fields should be taught only as the final step in the preparation for special practice and not until the student has learned how to make careful examinations and has acquired a proper appreciation of the indications for operative interference. This always means a prolonged period of work, for this training cannot be acquired during a few weeks' or months' attendance at special clinics.

Every physician should strive to protect the field of medicine for which he is sponsor. His motive in efforts to guard his particular field from abuse should not be misunderstood. It is not primarily one of self-interest, but arises from that sense of responsibility for the public welfare which every conscientious physician cherishes. As one who is devoting his life's work to the field of oto-laryngology, I feel that it is my duty to protest against this wholesale abuse of the work in the field for which I am sponsor and which threatens to bring the whole specialty into general disrepute.

Hospital managements should become interested in problems such as these. *Our hospitals*

should be institutions where the public can feel assured that they will receive competent medical and surgical care. This we can feel confident is the aim of every hospital management and we may feel sure that we shall have their hearty co-operation in measures looking toward the restriction of hospital work to men properly qualified in the several special fields. The correction of abuses such as these should come from within the profession. We should not wait until it is forced upon the profession from without. The problem of restricting surgical work in hospitals to men properly qualified to do such work is a proper one for the College of Surgeons to consider. Our aim should be to assist the hospital management in the selection of its staff and in determining what outside men should be permitted to work in the hospital.

The abuse of indiscriminate nose and throat operating will come to an end only when we have established in our hospitals special departments manned by men properly qualified to do this special work. Already measures are being undertaken for the protection of the public from unqualified men posing as specialists in this or that field. For several years the ophthalmologists have had a national board which examines the qualifications of men who desire to be recognized as properly prepared to practice ophthalmology. Only this year a similar board has been established for oto-laryngology. It is only a matter of time, I suspect, when similar boards will be established for the other surgical specialties. Hospital managements should be instructed in these matters and urged to establish departments of ophthalmology and oto-laryngology and to appoint on their staff in these special fields only men who hold certificates from the national examining boards. The hospital management, furthermore, should be as strict regarding the permission of men not on the staff to bring patients in for operation. For example, a physician who desires to bring in patients for nose and throat operations should be one who is recognized as capable of appreciating the proper indications for operations in this field. This means that he should be properly trained in oto-laryngology. He should be a man, in other words, who is able to get the stamp of approval from the National Board of Oto-laryngology and who holds the certificate from this Board.

If I am not mistaken, abuses similar to these just pointed out also exist in other fields of surgery. The question arises whether the time has not come when general practitioners who would bring into a hospital their patients in order to

perform operations for which only the properly trained general surgeon is qualified should be told to get the approval of the American College of Surgeons before they can expect to have permission of the hospital management to carry on this work in their hospital. The American College of Surgeons can be of great assistance in the correction of this outstanding abuse of surgical practice today by withholding its stamp of approval from hospitals which fail to comply with the very simple requirements that work in general surgery as well as in the special fields be carried on only by those who are qualified to do this work. This is not advocating a closed hospital. It is only proposing a plan by which the general public may be more efficiently safeguarded against the abuse of indiscriminate, unnecessary surgical work. It is an application of the Golden Rule to work that is going on within the walls of the hospital.

Each special clinical department in the hospital must be permitted to act as an independent unit and it must be assured of its proper apportionment of hospital facilities, for without such assurance it will often find itself smothered by stronger departments, such as general medicine and general surgery.

If the suggestions here made seem idealistic and impractical, I would like to say that at least two of our hospitals in Chicago are already enforcing practically the suggestions we are making here. In considering these newer problems which changing conditions in medicine, especially the development in hospital practice, have brought about, we should not fail to remember that the expansion of medical knowledge has necessitated the development of specialties to an extent which could not have been surmised a generation ago and that no man today can expect to become really proficient in more than one particular field. Undergraduate medical training does not aim to prepare the student to be a surgeon any more than it aims to prepare him to practice any of the special fields. Its sole aim is to prepare men for the practice of general medicine. Before the graduate in medicine can be recognized as properly prepared to take up any of the specialties or competent to do general surgery, it is necessary to spend a minimum of two or three years in special graduate work. Too often the impression has been gained that a graduate in medicine is a physician and surgeon. Such an impression fosters the belief that all that is required to prepare one to take up special practice is a few weeks' attendance at clinics where the aspirant gets at most but a smattering of technic.

ESSENTIALS FOR AN EFFICIENT OBSTETRICAL SERVICE

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I SUFFER, like a number of the previous speakers, from being a specialist, and yet I differ with them to a certain extent as to the proper attitude towards these so-called improper operations. I believe that, in the long run, the public must decide who will do their work satisfactorily, and they will go to the man they want. To my mind, the best way for them to find out who that man is, is to let everybody work, but to let them work under proper supervision, so that a qualified person may be enabled to judge who is the best worker. With that conviction, it seems to me very desirable that every institution, that is to say every general hospital, under the supervision of the College of Surgeons, should contain a special Department of Obstetrics, or rather a Department for the Practice of Obstetrics, for after all there are very few specialists in obstetrics; everybody practices obstetrics if the patient is sufficiently prosperous. There is no way, I think, in which the public may find out more satisfactorily who is the ideal obstetrician or gynecologist better than by a comparison made on these broad, general lines.

Now the question of the hospitalization of obstetric patients is not a new problem. Twenty or twenty-five years ago the literature of Germany was full of discussions of treatment, some adapted for hospital care, some adapted for home care. Of course, conditions in the large centers of the United States, such as the development of the apartment house, have made a very marked difference here, but I think it is due largely to the improvement of the hospital care of obstetric patients over the home care which has made the question of the admission of obstetric patients to every general hospital a very prominent question in the United States today.

The conditions in America are not quite the same as in the larger centers in Europe; for example, in Germany the various departments of the medical faculty have special hospitals grouped under a more or less central control but practically independent one of the other, while here, in most cases, a large general hospital must contain accommodation for all the various specialties. True, in a number of instances buildings have been specially adapted for obstetric work; for example, there is one I remember well, an excellent institution in Charlestown, South

Carolina; but in the vast majority of instances the maternity service must be cared for by the general hospital, and the question arises whether such close association is desirable and, if so, how the service may be established with a fair certainty of success, and at a reasonable expense avoid certain definite and possibly consequent dangers.

The development of an obstetrical clinic in close association with a general hospital is of importance from the standpoint of the patient, the profession, and the public at large, apart from a still greater importance in the furtherance of exact scientific medical knowledge. Not only is it essential for the patient that there should be supervision of the technic of a difficult labor, but if the hospital is, as it must needs be in the majority of instances, a training school for nurses, uniformity of training is only possible where all branches of that training are under the same supervision. Not only is special training at outside institutions disturbing from the standpoint of discipline and technic, but where such training is taken during the undergraduate course the necessity for the presence of the undergraduate nurses at classes in their own school is decidedly disturbing to the administration of the special clinic.

From a scientific standpoint an obstetric service can only be a success when in close affiliation with pathological, metabolic, and X-ray services which, to be satisfactory, must be under the same roof. Indeed, apart from these special services, the expense of establishment of an obstetric service is relatively slight; and its advantage to a general hospital is manifest since it is evident that by a slight additional cost the hospital comes in contact with a section of the public whose interest can do much to further the general social welfare of the community.

The first essential, and practically the only essential for the establishment of such a special department is space—space, capable of subdivision into small units for puerperal patients, sufficient and well aired space for a nursery to accommodate all the babies, a noise-proof room as a labor room, sufficiently large to accommodate two or three patients, and a confinement room in close association with the operating room, but not necessarily connected with it. Even in large

services such as the one we have in Montreal (it runs about 1,500 births a year) the actual coincidence of births is not frequent; in fact, I doubt if we have often had there two births within five or ten minutes of each other, so that a confinement room for the accommodation of one patient is sufficient, particularly if a labor room is provided where the patients may make all the noise they wish and where they may be kept for an hour or so after they have been delivered. Nothing is more disturbing to the general service of the hospital than three or four patients in different parts of the institution either about to be delivered or recently returned from the confinement room.

The suggested necessity of a number of small wards is based on the manifest necessity for the segregation of certain patients, such as eclampsics, and the added possibility for closing and cleaning certain of the wards without disruption of the general service. Above all, it allows for the complete segregation of the puerperal patients, which is of advantage in two ways: First, in the lessened disturbance of a general ward due to the routine technic of handling puerperal patients, for example, the bringing of the babies to nurse; and, second, from the more important standpoint of the propagation of infection. Under proper supervision I doubt if the average febrile puerperal patient is a menace to those in her immediate neighborhood; but unless we are willing to give the time to differentiate puerperal infections, which may differ from one another as widely as erysipelas from acne, it is safer to consider all febrile cases as dangerous, in that the lochial discharges may contain organisms as virulent as the ordinary discharge from a dirty surgical case. The isolation of such cases and the exclusion of their attendants from the delivery room is of the greatest importance in the prevention of the transfer of infective material. The admission of undelivered cases to surroundings contaminated by surgically dirty cases is one of the greatest dangers of hospitalization, particularly when there has been overcrowding, insufficient time for cleansing and ventilation, and still more particularly, if the labor has to be conducted in these same surroundings.

In the disposal of space there are two further nonessential but desirable requirements: A room for the accommodation of the relatives of the patients, who would otherwise make themselves a nuisance all over the building, and also some accommodation for the medical attendants who will do at least half their work between the hours of 8:00 p.m. and 8:00 a.m.

In the matter of special equipment, the wards require nothing more than the ordinary furniture of a medical ward, with a small carrier to accommodate solutions, forceps, swabs, and pads required for the routine dressings. The nursery should be sufficiently large to accommodate all the babies, each of which should be provided with a cot or subdivision of a cot and special utensils and cloths for washing and wraps, for use when being taken to nurse. An ordinary surgical carrier with a protective board or grating may serve to transport eight or ten babies from the nursery to the lying-in ward and can be easily handled by one nurse.

In connection with the nursery there is one feature of the utmost importance, and that is some system of safeguarding against an accident always in the mind of the public, namely, the exchange or misplacement of individual babies. To my mind this is a danger much more apparent than real and in some twenty years I have never known it to occur in the institution with which I am connected. Indeed, I doubt whether any intelligent woman could be deceived in regard to her own baby. Yet it is a decided advantage when, if through the carelessness of an attendant, the wrong baby has been brought to an individual patient, it is possible to make clear that this was the casual mistake of the attendant rather than the carelessness of the institution. This certain identification is made possible by means of an adhesive tag, prepared during the labor and applied to the child before the cord is cut, or by the excellent but more expensive bead wristlet method in vogue here in New York. The taking of footprints is quite unnecessary; and an adhesive tag applied to the child in the case room, either alone or in conjunction with the wristlet of beads or tape with tag showing the baby's name, is all that is required. One or the other is, however, for the laity absolutely essential.

The delivery room should be relatively sound-proof and accessible to, though not necessarily directly connected with, the labor room. The beds should be on wheels and of such character as to be suitable for delivery of the patient providing the labor is normal. The proximity of the delivery room to the operating room makes available the equipment of the gynecological service for any operative procedure and also places at immediate command resources for the treatment of hemorrhage and shock. The more complete the establishment of the general operating service, the more satisfactory for the maternity end, for apart from an obstetric forceps and possibly some dilating balloons, few instruments are

required by the obstetrician other than those available for general surgery.

In the preparation of a patient for labor it is our custom if the labor has not progressed too far to give the patient a purgative, to shave the vulva from the level of the urethra down and back and, at about the commencement of the second stage of labor, to give an enema. If a bath room is in association with the labor room, a broad board placed across the bath serves admirably as a table for this preparation. Once these preliminaries have been carried out, the patient is allowed up and about, with an ordinary perineal pad applied to the vulva so long as she is willing to stay up.

During the nagging pains of the first stage and the early second stage we are accustomed to administer heroin hypodermically. Preparation for actual delivery may be made in the delivery room and consists in painting the vulva with iodine or the application of a pad or towel soaked in beniodid solution, after preliminary cleansing with soap, water, and alcohol. At the time of delivery a basin partially filled with lysol solution and containing three clamps, a scissors, a needle holder, together with three or four needles, one of which should be very large and curved, one tube of catgut, and two or three strands of silk-worm gut are on a small movable table; also mask and dropping bottle with chloroform if required. (The gas and oxygen machine are, incidentally too, in the neighboring operating room.) For each case a package is used containing leggings, four towels, and a small bundle of safety pins, two strands of India tape approximately 10 inches long, a small bag of gauze pledgets and two small squares of absorbent cotton, this last for the purpose of wiping the mucus from the child's mouth. A number of these packages are prepared each day and sterilized with the other hospital supplies; incidentally at the same time the vulvar dressings are sterilized, and these may be best prepared by facing raw waste cotton with a thin layer of absorbent and covering the combination with coarse mesh gauze. By placing these pads side by side on a long strip of paper or gray cotton, folding over the edges, and then making a roll, the individual pads may be secured for application without contaminating the rest of the roll. When gloves are to be sterilized paper containers are cheaper and quite as satisfactory as cotton.

As regards the admission of patients it is essential for the protection of the hospital that cases expecting to be confined in the hospital should forewarn the institution of such intention. This

is important if for no other reason than that it may be possible to estimate how many cases are expecting care in any given month, for while I firmly believe that no emergency patient should be refused under any circumstance, such emergency cases can only be admitted where it is possible to isolate them until there is certainty that they will in no way menace the welfare of the other patients. Preliminary application also is a decided advantage in that it makes possible the securing of information which may be valuable at the time of labor. A number of the previous speakers have gone into the importance of the preliminary history, and I think that it is extremely important to determine the relation of the child to the mother, so far as the head and the pelvis is concerned, which of course can often be done by pelvic measurements, but is still better done by the palpation of the patient. Again, the association of the patient with the clinic from the early part of her pregnancy does much to minimize the occurrence of toxemia and may possibly result in the ultimate suppression of eclampsia.

In no other service in the hospital is a record of the patient from the first application till her discharge of greater value than in the obstetric department. If one were sure, for example, that a patient was subject to some medical or surgical disability which would necessitate hospital care at recurring intervals, no one could doubt that a history of all previous attacks would be of the utmost value. Inasmuch as every puerperal patient is exactly in this class, it is obvious that records of succeeding pregnancies, complete from the time of registration until the record of the condition at discharge, are absolutely essential; yet it is surprising in how few instances it is possible to obtain an absolutely clear obstetric history from the birth of the first to the birth of the last child. Most internes seem unwilling to bother themselves with exact details of previous confinements though often a few minutes spent in looking into the previous history or histories of the patient might obviate, shall one say, hours of anxiety in the case of subsequent toxemia or hemorrhage. It is noteworthy that the case records are not absolutely complete with the mother's history, as the medical history of the individual starts with the weight chart of a newborn infant, and habits of regularity evidenced by a chart which shows progressive, regular increase in the weight of the child, regular hours of feeding, and regular movements of the bowels are of great importance in the future history of such individual.

If I might just in one or two minutes sum up: Space is the first requirement—space separate from, but under the same roof with, the other services of the hospital; subdivision of such space into relatively small units which, in time of necessity, will allow for segregation of patients with temperatures and allow for the proper cleansing and aëration of the wards when the service is not being used to the maximum; a large airy room for the nursery on the same floor as the puerperal patients; and a labor room for a number of patients according to the size of the service, accessible to a delivery room which should be in close connection with the operating room; a waiting room for relatives and one for accommodation of the staff (which will do at least 50 per cent of its work between the hours of 8:00 p.m. and 8:00 a.m.) are desirable. (Perhaps a word as to private accommodation may not be out of place. Wards for private patients need not be large but if possible they should be so situated as to receive the maximum of sunlight; inasmuch as these patients, though not sick, require for the successful nursing of their children the maximum of contentment with their surroundings.)

Equipment is the second requirement. This need not be a matter of great expense if the general surgical equipment is available, since the more expensive special obstetrical instruments can usually be acquired by loan or by substitution. It is, perhaps, desirable that the institution be possessed of at least one standard forceps. In the matter of accommodation for delivery, expense is not essential as any one knows who was permitted to see the delivery room in the early days at Hopkins or Dr. DeLee's original institution in Chicago some twenty years ago. I think it is not unfair to say that improvement in results could not be expected to keep pace with the increased cost of equipment in either of these institutions.

For ordinary delivery a bed will suffice, and for operative delivery a simple wood table with a drop leaf and leg holders will suffice if an ordinary operating table is not available. The interest of some such organization as the Junior League may be directed to the supply of cots for the nursery and suitable clothing for newborn infants, and this, with the discarded operating room carrier for use between the nursery and the lying-in ward, should constitute the main items of expense.

The third requirement is nurses. Where the hospital is also a training school for nurses the number of additional nurses need not be great, but a competent day and night supervisor are essential not only for proper training of the

juniors but in that their presence adds greatly to the satisfactory running of the clinic inasmuch as these women attain proficiency in diagnosis by rectal examination, which examination is rarely objected to by the patient, and saves immeasurable time for the medical attendants. Apart from these two trained women, supervision of the delivery room should be under the direct control of the graduate in charge of the operating room. In this way alone can a proper standard of aseptic technic at the time of delivery be maintained. Further nursing assistance will depend on the routine orders of the medical director of the clinic. In the Montreal clinic, the babies of private patients are not nursed during the night, and it has always been my opinion that this procedure could be adopted in the public wards. If so, one nurse is sufficient to care for the nursery at night, and one other nurse could take care of as many puerperal patients as would be allotted to her in any medical ward. With such limitation of the night staff the delivery room would at times be understaffed, though this might be overcome by calling certain nurses to assist at the time of delivery very much as the students are called in clinics where teaching is undertaken.

The fourth requirement is internes. One interne should be able to take care of a service with approximately thirty confinements a month; certainly in a hospital where other internes have had a certain amount of experience, one should be sufficient. Where there is a gynecological service it is preferable that the senior gynecological interne should nominally control both services. In my opinion it is desirable that an internship in obstetrics should precede that in gynecology inasmuch as the routine examination of obstetric patients at the time of discharge offers the best possible grounding in bi-manual examination, while, on the other hand, much of the routine operative work in gynecology comes as the result of injury which might better have been treated at the time of labor and the extent of which can be better gauged when the manner in which it is produced is well understood.

The fifth requirement is records. In no other department of the hospital are records of greater value than in obstetrics. Apart from the frequency with which an institution may be blamed for the result of treatment adopted by the attending physician, it is extremely important that records be kept of the deliveries, particularly instrumental deliveries, and of treatment accorded postpartum. Since these are based on the orders of various men attending, they may be compared with a view to obtaining evidence when

disputes arise regarding a standard of routine treatment. For example, as a great many of you may know, the question of intrauterine manipulation in cases of fever will crop up in practically every institution, as will also the question of indiscriminate use of drugs, and there is no more satisfactory way of obtaining a modification of the routine of Dr. A. than by convincing him that better results are obtained by Dr. B. with a simpler routine. Moreover, the delivery records are essential as the bases of pediatric

records, particularly in communities where charities, including baby welfare, are based on an annual budget. While, as said before, the preliminary histories are important in estimating the number to be admitted at any future date, I repeat, they are extremely important in the prophylaxis of toxemia and emergency operations due to unrecognized pelvic deformities. In the case of multiparæ the histories of previous labors are quite as important as the previous histories of medical or surgical cases.

ESSENTIALS FOR AN EFFICIENT UROLOGICAL SERVICE

HENRY JOSEPH SCHERCK, M.D., ST. LOUIS, MISSOURI

Assistant Professor of Genito-Urinary Surgery, St. Louis University School of Medicine; Visiting Genito-Urinary Surgeon, St. Louis City Hospital, and Genito-Urinary Surgeon, Missouri Pacific Hospital

MODERN urology may be said to have been firmly established in 1805, when Bozzinni of Frankfort invented an apparatus for illuminating the bladder. Various physicians contributed to the development of modern genito-urinary surgery, though it was not until about 1876 that Nitze Brenner and Lister developed the modern cystoscope, which is at the basis of our exact diagnoses at the present time. Surgery of the kidneys may be said to have developed after the first operation for the removal of the kidney in 1868 by Paeslee. Simon followed Paeslee by removing a kidney during the following year for a calculus of that organ; and published an interesting paper soon afterwards in which he attempted to classify the surgical diseases affecting that organ. The catheterization of the ureters was first accomplished by Pawlik and Bozeman. The cystoscope was improved and the catheterizing feature was developed by Brenner in 1892. It was only in 1879 that Neisser announced the discovery of the gonococcus. So it is that the science of urology is of comparatively recent origin in the discovery of its most important features.

It is easily within the memory of most of us that urology was unknown as a distinct specialty, and considerably shorter has been the period since a place was given it in the organization of hospitals. Owing to the tremendous advance that has been made in this specialty of medicine, due, in the main, to the modern cystoscope and the X-ray, it can now be considered as having arrived and occupies its distinct place along with the older specialties of medicine. There are many hospitals throughout this country in which this branch of surgery is still linked up with some

other branch. Fortunately, however, their number is gradually growing less. Constant effort on the part of prominent specialists, as expressed in the proceedings from year to year of the American Urological Society, the section on urology of the American Medical Association, and kindred societies have forced its general recognition among physicians and hospitals.

The American College of Surgeons, alive to the needs and demands of those interested in modern urology, has, through this section on "Hospital Conference" suggested that a brief paper on the essentials of a modern urological department in a hospital would be timely.

In connection with the establishment of an independent department of urology, there are certain thoughts that have occurred to me and which I am impelled to call your attention to and to urge with the full strength of conviction and with whatever force I am capable. The attitude of the general surgeon must be overcome. The oft repeated statement heard in hospitals and at conventions that we urologists are not surgeons, that certain major surgical procedures had better be left to them should be refuted by the evidences of the splendid work already accomplished.

We depend on the great force that is behind the American College of Surgeons to assist us in this endeavor. In order to obtain the full confidence of this association a direct appeal together with energetic propaganda must be exerted on the various schools of medicine throughout this country to the end that urology as a distinct specialty be given more than a passing place in the curriculum of the medical schools. In most medical schools forty hours to seniors is about the maximum amount of time allotted to this course

and a large proportion of it is taken up with venerology. The American College of Surgeons, if their desire is to see to it that only men thoroughly qualified to assume the responsibilities of active service be placed on the hospital staff, must realize that their aid is essential for the preparation that is necessary for men to assume such positions.

It is of particular importance therefore that no man should be admitted to Fellowship in the College unless he is thoroughly qualified to perform the various surgical procedures constantly met with in the practice of true urology. Who is to pass on their qualifications? Surely not men working in some other field of surgery, but rather, and with more intelligent discrimination, men who have been proven thoroughly competent in the urological field. There should be a committee of urologists in each state of the union to pass on the qualifications of every urologist aspiring to Fellowship. I am under the impression that such a plan has been adopted with regard to certain other specialties and therefore I can see no good reason why the same plan should not apply with equal force to genito-urinary surgery as well.

There are four essentials for the accomplishment of true efficiency in hospitals: First, accuracy of diagnosis; secondly, careful and painstaking records; and, thirdly, practical and up-to-date equipment for the carrying out of all procedures necessary for exact diagnosis and proper treatment; and finally a follow-up system. May I again stress the importance of this specialty as a distinct entity, and the help it gives towards clarifying the diagnoses in other departments of medicine. Exactness in diagnosis, either to isolate definitely the condition, or to exclude certain suspected findings, making the diagnosis thereby more easy for some department of medicine and surgery, is constantly being met with. Again, it is a truism that in no field of medical endeavor, does a careful investigation more often serve to establish the degree of surgical risk than does certain urological investigations. May I remind you how important it is to establish the functional ability of one or both of the kidneys; the differential diagnosis between ureteral colic and appendicitis; between gall-bladder disease and pathological states of the ureter; the differentiation between intra and extra abdominal masses by means of pyelograms and pneumoperitoneum in cases of bladder pathology and gynecological conditions. May I remind you also of the help that comes from ureteral catheterization, when difficult hysterectomies are done, avoiding as it does in

many instances serious injury to the ureters; these and many other advantages, I am sure, convince one of the importance of this branch, not only from the standpoint of the work that naturally falls within its own confines, but its close association with so many other departments of the hospital. Both general medicine and surgery should take advantage of and utilize its services for the clarification of diagnoses and the material help that it gives in the treatment of patients.

Urology can only succeed as a distinct department, having its own organization, coming in contact with the several other departments of a hospital through proper reference blanks or requests for consultation. In order that the Department of Urology should be so organized, it is of prime importance at the very outset to have a clear concept of those conditions which properly come under its division. In one of the hospitals with which I am connected, the staff have agreed on the following classification for those cases which primarily are admitted into the urological service: All surgical diseases of the genito-urinary tract in the male, and all ureteral catheterizations and medications, and all surgical urinary diseases of the female, together with all venereal diseases involving the genitals in both sexes. In passing, I desire very emphatically to urge that all hospitals, whether public or private, accept as patients sufferers from venereal disease. There can be no argument that offsets the advantage of this departure. From the standpoint of the public health, from the standpoint of minimizing the periods of morbidity, from the standpoint of the accumulation of valuable statistics, such a general custom would be of immeasurable advantage. With modern methods of asepsis and training on the part of hospital attendants and nurses all risk of infection is practically minimized to the vanishing point. Aside from those cases which are assigned directly to the urological department, the freest use should be made by other divisions of the hospital for consultation. For the purpose of consultation, the form adopted by the Missouri Pacific Hospital has proven quite satisfactory. (Page 87.)

The patient, having been admitted into the urological service, is seen by the interne, who writes the history within twenty-four hours. The form of history depends upon whether his case comes under what we are pleased to term clean urology or venereal. If it be a clean urological case, the history blanks differ in nowise from the usual details of a history that is gone into for the regular medical or surgical case, with the exception that the appended diagrams, visualizing the

Date _____

Patient _____

Referred to Dr. _____

Referred by Dr. _____

MISSOURI PACIFIC HOSPITAL ASSOCIATION

_____ 192

Dr. _____

Office Hours _____

The bearer, _____, an employee of

_____ Railroad Company, is respectfully referred to you.

Please report your findings and your recommendations on the attached blank and return to Hospital Office either by patient or by mail. If patient requires treatment in your service, take charge of that aspect of the case.

OUR FINDINGS are as follows:

IN.....

OUT.....

WARD.....

Referring Physician_____
Chief Surgeon

MISSOURI PACIFIC HOSPITAL ASSOCIATION

RETURN REPORT

Dr. _____, Chief Surgeon, _____

Our findings, recommendations, etc., in case of _____

referred by Dr. _____ are as follows:

IN.....

OUT.....

WARD.....

Date _____

Signed _____

local conditions, are attached to the history. These diagrams may be placed on the history by means of rubber stamps, or may be printed as a part of the history blank. They consist of four diagrams:

Anterior-posterior view of the genito-urinary organs; sagittal section of the body; a series of circles indicating the vesical orifice so that

The urological department should not be limited in the number of beds, especially for the clean surgical cases, nor can I see any good reason for the segregation of such cases. My impression has always been that the segregation of patients who suffer from similar conditions is not desirable. Patients usually compare notes

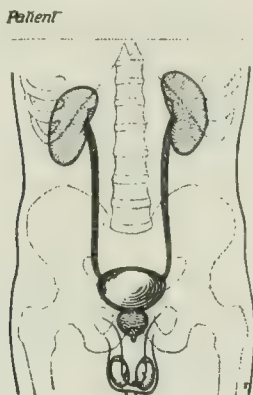
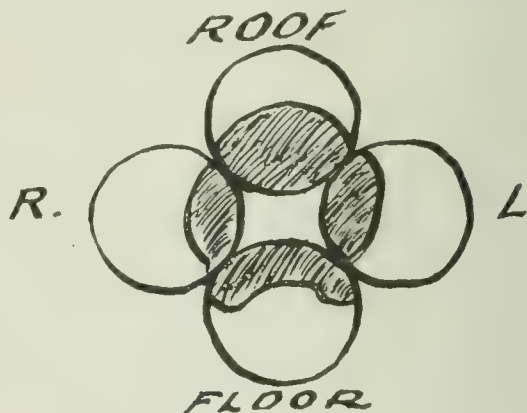


Diagram used for visualizing the male genito-urinary system (longitudinal view).



Cross view diagram of the male genitals.

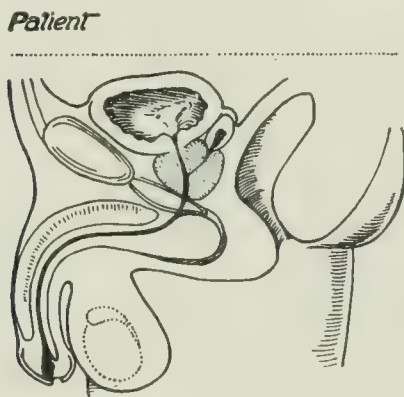


Diagram for visualizing the cystoscopic picture of the shape and size of the prostate.

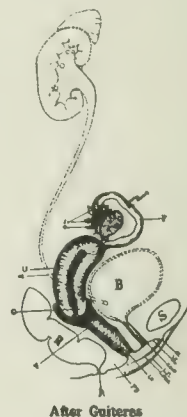


Diagram of the female genito-urinary system.

FIG. 1

irregularities in the size and shape of the prostate may be noted; and, finally, the female genitals. (Fig 1.) Should the case be signed to the venereal section of the urological department, two forms of histories are suggested: one for cases of syphilis, the other for the remaining venereal diseases. The forms used by St. Mark's Dispensary of New York have been adopted with thorough satisfaction. (Pages 89 to 93.)

and not being able to differentiate between conditions are too often depressed when one of their fellow patients is seemingly not doing well. Venereal cases, however, should be isolated.

Following the custom of all the accredited hospitals of the American College of Surgeons, monthly staff meetings are held, and at these the head of each department should call to the attention of the rest of the staff items of interest, and

SPECIAL CLINICAL DEPARTMENTS

89

ST. MARK'S HOSPITAL DISPENSARY
DEPARTMENT OF UROLOGY

SERVICE OF
SYPHILIS-THERAPY DIVISION

D U S T NO

ADMITTED

NAME

OCCUPATION

M F

AGE

B M W O

ADDRESS

NATIVITY

IN U S

YRS

WHITE BLACK

REFERRED BY D OF H DR

SIGN

BOOK

PATENT

(OTHERWISE)

DIAGNOSIS. SYPHILIS Acq'd., H. Ity. Stage, Cerebral, Spinal, Visceral, Skeletal

(On admission enter on page 3 or 4 any facts for which the spaces of pages 1 and 2 are insufficient. Use careful non-references.)

I. PREVIOUS HISTORY

a. FAMILY (Include father, mother, brothers or sisters. Enter positive cases under Family and Marital Record on page 2.)

b. MARITAL (Mate and children. Enter positive cases under Family and Marital Record on page 2.)

c. PERSONAL (As well as Syphilis enter Urethritis and other V. D. All active cases receive proper Histories, Examinations and Treatments at once.)

II. PRESENT HISTORY

SOURCE OF INFECTION

Public _____ Clandestine _____
Adultery _____ Marital _____
Congenital _____ Otherwise _____

PREVIOUS TREATMENT

Physician _____ Institution _____
Quack _____ Druggist _____
Self _____

III. EXAMINATION (Include Skin, Mucosae, Glands, Heart, Vessels, Nose, Throat, Lungs, Teeth, Liver, Alimentary Canal, Brain, Cord, Nerves, Kidneys, Testes, Ovaries, Bones, Joints, Muscles, Eyes, Ears.)

Professors: F. M. L. & Sons, 101 Marlon Street, New York City

Social Service Notes are to be entered on Treatment Sheets from date to date.

91

Page Three

CONTINUED HISTORY.	D. U.-S. T. DIVISION.	NAME
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(On admission enter on this page any facts for which the space of page 1 is insufficient. Use careful cross references. On admission each patient is to receive a circular of instruction with due explanation thereof. Urinalysis is to be done at least after each course of 4 As. or of 12 Hg. treatments, and Wassermann tests are to be done at least after each test period.)

[illegible]

SYMBOLS: Positive + Strongly Positive ++ Very Strong Positive +++ Extreme ++++ Absent - Distinctly Weak -
Distinctly Weak > Very Weak >> Unchanged = Variable ∞ Decreasing - Increasing + Stopped #

AMERICAN COLLEGE OF SURGEONS

Page One

ST. MARK'S HOSPITAL DISPENSARY

SERVICE OF

D U G U. T. NO.

DEPARTMENT OF UROLOGY

G. U. THERAPY DIVISION

ADMITTED

NAME

OCCUPATION

M F

AGE

S M W D

ADDRESS

NATIVITY

IN U S

YRS

WHITE-BLACK

REFERRED BY D OF H DR

SIGN BOOK PATIENT OTHERWISE

DIAGNOSIS URETHRITIS - Gon., Nongon., Ant., Post., Ac., Subac., Chr., Uncomplicated.
Complications =KIDNEY
BLADDERURETER
MISCELLANEOUS

(On admission enter on pages 2-3-4 any facts for which the spaces of this page are insufficient. Use careful cross-references.)

I. FAMILY AND GENERAL HISTORY

II. PREVIOUS VENEREAL HISTORY (As well as Urethritis enter Syphilis and any other V. D. All active cases receive proper Histories, Examinations and Treatments at once.)

III. PRESENT HISTORY

SOURCE OF INFECTION

Public Clandestine
Adultery Marital
Congenital Otherwise

PREVIOUS TREATMENT

Physician Institution
Quack Druggist
Self

IV. EXAMINATION ON ADMISSION

V. EXAMINATION ON DISCHARGE

DATE	Detail Dates Carefully	DATE	Detail Dates Carefully	DATE	Detail Dates Carefully
	GENERAL APPEARANCE		CYSTOSCOPE		PREPUCE VULVA
	PREPUCE VULVA				GLANS CLITORIS
	GLANS CLITORIS				MEATUS
	MEATUS				INGUINAL GLANDS
	INGUINAL GLANDS		URINE BY CATHETER		TESTES OVARIES
	TESTES OVARIES		RIGHT KIDNEY		EPIDIDYMES
	EPIDIDYMES		URETER		URINE 1
	URINE 1		URINE		" 2
	" 2				PROSTATE UTERUS
	PROSTATE UTERUS		PHTHALEIN		
	VESICLES TUBES		LEFT KIDNEY		VESICLES TUBES
	URETHRA BOUGIE		URETER		
	ENDOSCOPE		URINE		URETHRA BOUGIE
					ENDOSCOPE
			PHTHALEIN		
	BLADDER		GON. COMP. FIX. TEST		CYSTOSCOPE
	RESIDUAL URINE		WASSERMAN		

VI. SMEAR CULTURE URETH. PROST. VES.

SMEAR. CULTURE. URETH., VULV., VAG., UT.

03

NO.

[illegible]

Positive + Strongly Positive ++ Very Strongly Positive +++ Extreme ++++ Absent Doubtful / Weak +
Distinctly Weak + - Very Weak + - - Unchanged = Variable ∞ Decreasing - Increasing - Stopped #

should urge the close co-operation between his and other departments.

Depending upon the size of the hospital, the organization of the urological staff must of necessity differ. Having in mind a general hospital of some 700 beds, the organization should consist of the Chief of the Department; associated with him is an Assistant Chief. Neither of these two is a member of the resident staff. From

operations are undertaken by special arrangement at any time when the case demands prompt attention. Immediate notification of the head of the department or his assistant is required in all emergency cases. If the case be of minor importance, the senior resident may be delegated to afford emergency relief.

The Assistant Chief of the Department is required to make a weekly inspection of all

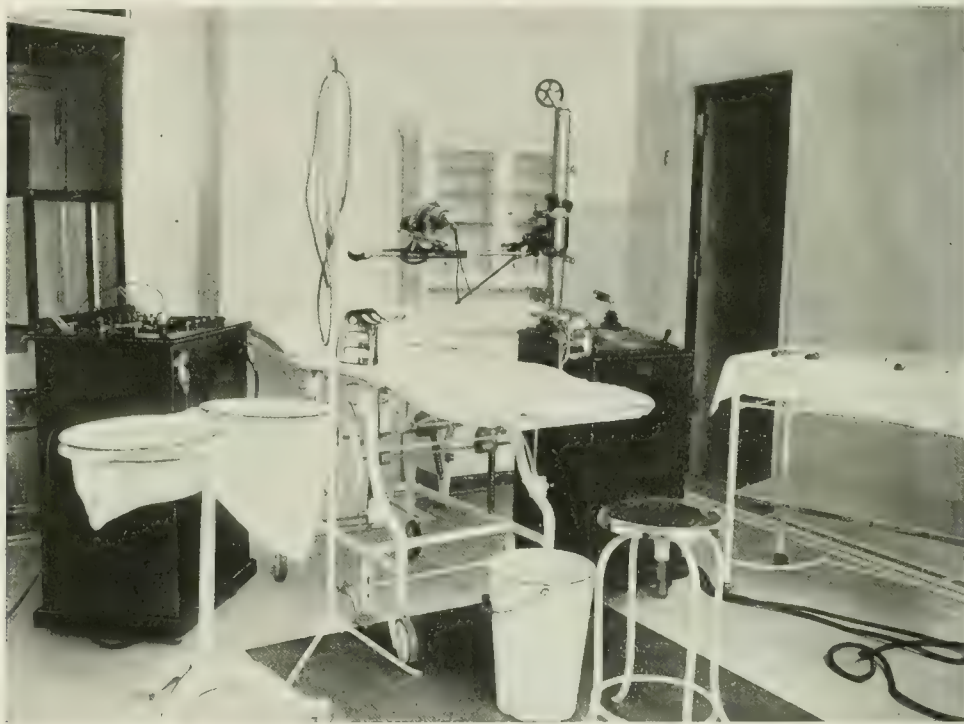


FIG. 2

The equipment of the urological room of the Missouri Pacific Hospital of St. Louis.

the resident staff, a senior resident is assigned to the urological department. If the service is not particularly large, he may combine this duty by being assigned to one of the other specialties. Under him, a junior interne is assigned, and the number of junior internes will, of course, depend on the number of patients. The Chief of the Department visits the hospital at least every other day; the Assistant Chief of the Department, daily. On his arrival, the resident physician and junior interne are notified, and together make the rounds. Once a week, a conference is held of all members of the department. On two days a week, a special hour in the operating room is reserved for urological procedures. Emergency

histories, and his initials are attached to each history on the discharge of the patient. It is the policy of our department to have the cases worked up as soon after admission as possible, together with all laboratory tests, blood examinations, and X-rays.

The requirements of an up-to-date urological examination and treatment room is distinctly individual. A picture of the one in the operating suite of the Missouri Pacific Hospital is shown in one of the illustrations, (Fig. 2) which I will describe.

The room is one of a series of the operating suite. It is about equal in size to the usual operating room; it has a north light. Leading from this room is a dark compartment in which are

immediately developed the X-ray plates, which in the event of their proving to be unsatisfactory, may be retaken. The furniture consists of an aseptic instrument case, instrument table, portable X-ray, irrigator and stand, fulguration, diathermy cabinet, and cystoscopy table. On the floor you will notice a heavy rubber mat, since most steel constructed buildings conduct electric current, and shorts through the cystoscope are not uncommon. While the portable X-ray machine used in connection with the ordinary table is fairly satisfactory, the newer type of urological table in which is set a Bucky diaphragm has many advantages. This form of table is shown here in the urological room in one of our hospitals. It is quite easy to avoid electrical shorts through the cystoscope, especially if a fulguration is required, if the light on the cystoscope be illuminated by means of dry-cell batteries, rather than a current controller attached to the street current. The same care and minute attention to surgical detail is required of the nurses and assistants in this department.

Nurses in hospitals are required to assist when necessary in all urological procedures (Fig. 3);

formerly, it was quite difficult to secure the attendance of female nurses in male urological cases, but since the custom has been established, no difficulty is now encountered. The most recent urological room in our city is the one equipped and in operation at the city hospital.

This room has a cystoscopy table with a built-in Bucky diaphragm so that pyelograms can be made without disturbing the patient (Fig. 4). Radiographs can be taken in any position from the vertical to the horizontal, the tube and Bucky diaphragm being always properly centered. The X-ray transformer and motor is on the floor above, the high-tension wires emerging through the ceiling directly above the X-ray tube. The control cabinet is in a booth just outside of the door. This leaves the room free for cystoscopic procedures. All necessary instruments, sterilizer, etc., are provided. The room can be darkened by a specially constructed ventilating window sash, and a foot switch makes the room light control easily accessible. The current for the cystoscopic lamp is furnished by a light socket which hangs from the ceiling directly over the right shoulder of the operator. Two independent line currents

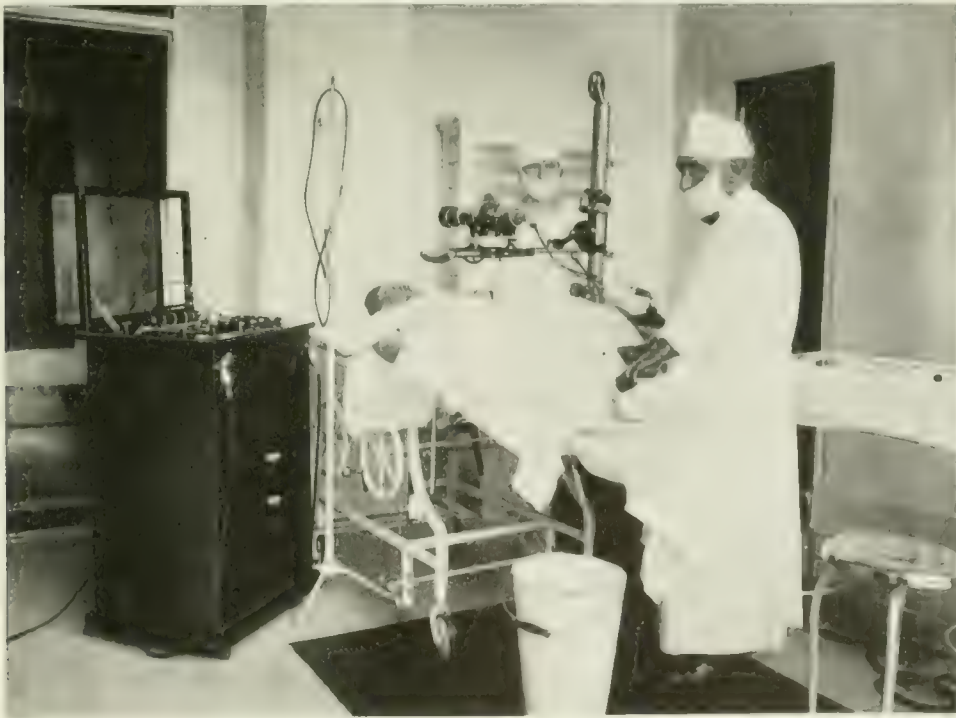


FIG. 3

The urological room of the Missouri Pacific Hospital of St. Louis with patient prepared for a pyelogram.



FIG. 4

The cystoscopy room of the City Hospital of St. Louis

are provided so as to guard against mishap to the lamp current and to make it possible to fulgurate without danger to the patient in the event dry cells are not used. An instrument cabinet and scrub-up sink are at the rear end of the room and do not show in the picture.

Every urological department should have access to radium. If the hospital itself cannot supply it, arrangement should be made to obtain its use in suitable cases.

No hospital can fulfill its full mission unless it be a teaching hospital. The development of every department is stimulated by the interest in research which comes from teaching. Modern urology being one of the newer specialties in medicine should, through its department, use every endeavor to utilize its patients and to demonstrate the improvements in method to physicians and students. In this way its importance will be more quickly recognized and its standing more quickly established.

Limited as I am in time, I have been compelled to be quite brief and have been forced to omit any consideration in this paper of the organization of the out-patient department. The out-

patient department, however, should be instructed to admit into the hospital patients who present certain clinical findings. Blood in the urine, or pus in catheterized specimens should furnish sufficient reason for the admission of the patient. Most urological investigations, embracing as they do certain laboratory procedures and very often X-rays, require a stay of at least two or three days on the part of the patient for a careful work-up.

It has been found of considerable advantage in our hospitals to standardize, so far as possible, our system of medication, our routine procedures and our various medications, both internal and external. Exception can be made if the case presents any feature requiring an unusual type of treatment.

We, as urologists, feeling that this field affords so much in the way of help in the establishment of correct diagnoses and proper medication, as well as the most advanced ideas in surgical relief, urge the careful consideration by all hospitals of our plea that a distinct department of this branch of medicine be established in every modern hospital.

A MINIMUM STANDARD FOR X RAY SERVICE IN A HOSPITAL

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FIRST, I beg to call to your attention the fact that at this meeting last year I was privileged to address you on the "Fundamental Requirements of an Efficient X-ray Service in Hospitals." At that time, feeling that we were discussing *minimum* requirements, I tried to put into as concrete form as possible a statement of the minimum equipment, space, organization, personnel, and recording service, together with a discussion on the interpretation of findings. It did not seem possible then, nor does it seem so now, to attempt an iron clad itemizing of the various articles of equipment, for these will vary within certain limits according to the size of the hospital and the activity of the out-patient department.

We have observed some very interesting conditions. For example, there are instances where a bequest has been given to a small hospital with the specification that it be expended on the X-ray Department, with the result that the X-ray service possesses instruments altogether beyond the needs of the hospital or of the community or of the ability of the personnel of the hospital to employ, leaving other departments of the hospital without adequate material. More often we have found the X-ray Department still cooped up in the same small space occupied ten or fifteen years ago by the photographic and the primitive roentgen apparatus of those days, without provision for the tremendous expansion which this department of hospital service has undergone within recent times. For those who are definitely interested in the topic of this paper, I would respectfully suggest a re-reading of my talk of a year ago, as printed on pages 82 to 86 of the Report of the Hospital Conference held at Chicago, October 22 to 23, 1923 (Bulletin of the American College of Surgeons, 1924, viii: No. 1 January).

For this morning's discussion permit me to take up somewhat in detail the paragraph under "Hospital Standardization Explained" relating to the X-ray Department, found in this year's Hospital Standardization Report.

The opening sentence declares that "*like the clinical laboratory, the X-ray Department is also essential in every hospital.*" If we may depend upon the judgment of Dr. Richard Cabot, as expressed in a recent address before the American Roentgen Ray Society, there can be no question

as to the correctness of this statement. Dr. Cabot, basing his statement upon the results of many hundred pathological conferences of the type well known to us all, where the ultimate value of the various laboratory and clinical findings comes to an impartial appraisal, asserted that the roentgen findings were often more valuable than combined reports from the clinical laboratories, then he went on to place both of them in their relative positions with regard to the history and the physical examination.

"*It should have the necessary space, be properly lighted and ventilated, and conveniently located to the professional services.*" There is one other consideration which should be more than implied, namely, that of protection. The provision of proper protection will automatically care for some features of the items "space, ventilation, and location." I cannot do better here than to invite your attention to the work of the Safety Committee of the American Roentgen Ray Society, which from time to time reports on various phases of the protection question. The last published report appears in the American Journal of Roentgenology and Radium Therapy for March, 1923, pages 240 to 245 and 246 to 247. Following is a summary of the last published report made by the Safety Committee:

1. X-ray equipment should not be installed or operated in low-ceiling rooms with overhead piping, or in damp or poorly ventilated rooms.
2. Floors should be covered with cork or other insulating material.
3. Foot switches should not be used in any radiographic work.
4. All diagnostic operating switches should automatically and positively open when released.
5. Double scale millimeters should be eliminated.
6. Two millimeters in series should be used in treatment.
7. All X-ray apparatus should be equipped with quick-acting circuit breakers, preferably of double pole type. These should open with certainty on a 20 per cent overload. Circuit breakers should be tested at least once a month and a permanent record kept of these tests. Properly rated fuses should be used in addition to circuit breakers.
8. Where overhead high-tension lines are used they should be of metal tubing not less than $\frac{1}{2}$ inch

in diameter. They should be firmly mounted and extend to the transformer or rectifier terminals.

9. High-tension reel wire should be of fine braided enameled copper without cloth covering, strong enough to stand a pull of not less than 50 pounds weight.

10. High-tension reels should be firmly mounted and have proper winding guides to prevent catching when winding, and sufficient tension to wind up against a pull of one pound weight.

11. Vertical and horizontal fluoroscopes should be so enclosed by insulating materials as to prevent operator, patient, or assistants from approaching within sparking distance of any part of the high-tension system. Metal screens should not be used if the fluoroscope table permits the use of a tube over the patient.

12. In every installation the operating switch should be so placed that a full and unobstructed view is had of the high-tension line to be used. If lead glass windows are provided, they should be large enough to insure such a view.

13. All tables used for treatment with the patient between the tube and the table should be made of insulating material, unless the tube and terminals are enclosed in a permanent grounded case. No spring mattresses should be allowed.

14. Tables used for radiographic and fluoroscopic work should be of insulating material when practical, and the handles of all switches and diaphragm controls should be of such material.

15. Where tubes in more than one room or booth are to be operated from the same transformer, provision should be made so as to make impossible simultaneous operation or closure by anyone not in direct charge of the tube or line used. This may readily be accomplished by suitable interlocking switches or otherwise.

16. All bedside or portable outfits should have their high-tension lines so placed that they permit of doing bedside work without having their wires come nearer to the patient than the tube terminals.

17. No treatment apparatus should permit any part of the high-tension system to come closer to the patient than double the operating spark-gap, unless protected by a suitable insulator.

18. *Permanently* placed grounded metal screens between the tube and the patient are permissible and advised where the spark-gap exceeds ten inches.

19. Machines for high voltage therapy should be so designed that their milliamperage on a short arch discharge is not more than 50 milliamperes.

It would be wise for every hospital to review the conditions in the X-ray Department with refer-

ence to this safety question. The matter of filing of X-ray films should also receive careful consideration unless the non-inflammable variety of films is used. There is a serious fire-risk in every file of the ordinary highly-inflammable X-ray films, unless properly protected and ventilated filing cabinets are provided.¹

The figures submitted in my last report concerning the *minimum* floor space required by the X-ray Department seem to meet the approval of a considerable number of well-known radiologists to whom I have submitted the question. I repeat the figures. Understand, these figures are minimum, not optimum.

Hospital of 50 beds, at least 400 square feet floor space.

Hospital of 100 beds, at least 650 square feet floor space.

Hospital of 150 beds and up, at least 1,200 to 3,000 square feet floor space.

If the hospital in question is a teaching hospital, then still more space must be provided as a minimum requirement.

"It should be organized and equipped to do radiographic and fluoroscopic work at least. Superficial and deep therapy is advisable where possible and practical." The matter of intensifying screens is of no small importance. The initial outlay for screens is fairly expensive, but their careful and economical use leads to a very great saving in tubes and a very marked improvement in the quality of those exposures which must be done more or less instantaneously to be of value.

At the request of the Director-General of the American College of Surgeons, a committee was appointed last June by President G. E. Pfahler, of the American College of Radiology, to offer to the Board of Regents of the College a list of minimum apparatus and equipment requirements for a standardized hospital of 50 beds or over. The following standard has been offered to the Board of Regents. It should not for one moment be understood that this is anything more than a minimum and the requirements for a hospital of 100 beds and up should be considerably higher.

HOSPITALS OF 50 TO 100 BEDS

In at least 400 square feet floor space, properly lighted and ventilated, free from dampness and otherwise properly protected from electrical and X-ray dangers, and conveniently located in relation to the professional services, there should be placed at least the following:

¹A description of the proper construction of such a cabinet will be sent anyone who will address the writer of this paper.

1 interrupterless transformer, of 5 KW or more capacity, with both rheostat and auto-transformer control, and preferably with 2 millimeters;

Coolidge tubes, of universal and radiator type;

Upright and horizontal fluoroscope and X-ray table equipped with tubestand, or a combination tilt table with facilities for fluoroscopic and radiographic work above and below the table and in the vertical position;

1 Potter-Bucky diaphragm, preferably attached permanently to the X-ray table;

Upright plate changer for stereoscopic chest work (this also may be incorporated in the combination table);

Tunnel plate changer for ordinary stereoscopic work;

Stereoscope and viewing box;

2 or more cassettes of each of the following sizes, 8 x 10 inches, 10 x 12 inches, and 14 x 17 inches, with permanently attached intensifying screens;

1 set of dark room equipment;

Lead rubber protective gloves, aprons, goggles, time clock, and minor accessories.

HOSPITALS OF 100 BEDS AND UP

A more powerful interrupterless transformer than above noted.

Where therapeutic work is approved and a properly trained medical radiologist is available, 200,000 volt X-ray equipment for deep therapy may be added.

A minimum of 650 square feet floor space.

Table with Potter-Bucky diaphragm permanently attached is highly desirable.

Intensifying screens: 6 cassettes 8 x 10 inches, 6 cassettes 10 x 12 inches, and 4 cassettes 14 x 17 inches, all double and permanently attached.

Eye localizer and charts.

Fluoroscopic bonnet for foreign body and fracture manipulations necessary in operating room.

The committee was not asked to report on any other phases of the radiological service than the equipment.

As for X-ray therapy, it is useless and positively dangerous to undertake it unless the physician in charge of the department has had special training in therapeutic applications of the X-ray. For those hospitals not yet able to provide a physician for this work, X-ray therapy should not be undertaken at all.

The provision of a portable or bedside unit is one too little appreciated in most hospitals. This unit may be in such form that it can be used for work outside of the hospital in the home wherever electrical current is available. Too much fracture work is done in the home without X-ray control.

SUPERVISION THROUGH A MEDICAL ROENTGENOLOGIST IS ESSENTIAL

The American College of Surgeons has made a very important forward move in incorporating this statement in the minimum standard. This supervision by a physician roentgenologist is discussed at some length in my paper of last year already referred to, but we may with profit once more emphasize that this supervision is necessary not only from the standpoint of administration and the carrying on of complicated technique, but particularly on account of the interpretation of findings which can only be properly done by such a trained person. Even in those small communities where it is as yet impossible to find a man specializing in roentgenology to take charge of the hospital X-ray work, it is quite feasible for the members of the staff to pool their interests and select one of their number to devote special attention to this matter, and take definite steps to improve his ability to interpret X-ray findings. As already mentioned, it is out of the question to consider the matter of X-ray treatment by anyone not a physician, and no physician in his right mind will dare to undertake X-ray therapy unless he has had special training in this work. Otherwise one of two things is almost sure to happen: either he will lean so far to the safe side that his therapeutic endeavors will have little or no effect, or else he will damage enough patients to shortly put an end to his therapeutic essays.

THE ORGANIZATION, EQUIPMENT AND MANAGEMENT OF A DEPARTMENT OF PHYSIOTHERAPY IN A HOSPITAL

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Neurologist and Director of the Department of Physiotherapy, Grace Hospital

EARLY in my professional career I became interested in neurology, and soon learned the value of physical remedies in the treatment of neuroses and psychoneuroses. My first real work in physiotherapy, however, began in 1900, when I installed hot air cabinets (in those days there were few electric light cabinets) and a douche table for the administration of hydrotherapy to this class of patients. At that time it was difficult to get either my professional brethren or my patients interested in this form of treatment. Several of my colleagues thought it was a joke. One man warned me not to ride the hydrotherapeutic hobby too hard. Then it was real pioneer work, and I found it very difficult to get new patients to consent to take "baths" for the treatment of their headaches, insomnia, or depression. They had been used to taking medicine for this purpose. But a few patients who had confidence enough in me to continue the treatment did get results. They told their friends, and very soon new patients began to present themselves at the office asking to be given "baths."

During the past fifteen years the use of physical remedies has grown rapidly in favor among progressive physicians and surgeons. Especially is this true since the World War, and now we have arrived at the time when every well-equipped hospital should have a department of physiotherapy.

ORGANIZATION

I believe the hospital is the logical place to carry on this work for several reasons. First, the best work can only be done where it is possible to have a full and complete equipment. Second, the field is larger because it is possible to extend the use of this apparatus to out-patients as well as to strictly hospital cases. Third, there is not the temptation to commercialize the work. Fourth, the work is more likely to be in the hands of thoroughly competent men, and there is less danger of its falling into disrepute because of improper use and consequent failure to obtain results. A department of physiotherapy is a valuable asset to any hospital, not only from a therapeutic standpoint, but also from a financial standpoint. At Grace Hospital, in New Haven, we have shown a substantial profit from the very beginning. You will get some idea of the work

we are doing when I tell you that during the calendar year of 1923 nearly ten thousand treatments were given to about one thousand different patients. The department was inaugurated five years ago this fall.

EQUIPMENT

A list of the apparatus required to completely equip a department of physiotherapy would include the following branches: hydrotherapy, electrotherapy, phototherapy, mechanotherapy.

The hydrotherapeutic equipment should consist of a controlling table and the necessary fixtures, such as a circular shower, rain shower, hose nozzles for Charcot and Scotch douches, perineal douche, full and sitz bath-tubs, and whirlpool baths for arm and leg.

The electrotherapeutic equipment should include a wall plate or other device for delivering galvanic, faradic, and sinusoidal currents; a static machine; coils for high frequency current applications such as diathermy, autocondensation, and electrocoagulation; and a Morse sine wave current apparatus.

The phototherapeutic equipment should be an electric light cabinet, a deep therapy lamp, quartz lamps, both water-cooled and air-cooled.

The mechanotherapeutic equipment should consist of a few pieces of apparatus for corrective gymnastic work, such as a chest weight, stall-bars, ladder, and massage table. A great deal of very elaborate apparatus has been invented and placed on the market for this type of work, but it is not necessary. Conscientious, skilled attendants can do more than a piece of apparatus for correcting many deformities.

Every department of this sort should have one or two local hot air bakers, although the use of hot air is much more limited than formerly.

This no doubt looks like a formidable array of apparatus, and at first thought may seem unnecessary; but substitution by the physiotherapist is no more excusable than substitution by the pharmacist. For example, he cannot be excused for using autocondensation in the treatment of arterial hypertension when the electric light cabinet followed by some appropriate hydrotherapeutic procedure will produce better results. To be sure, the cost of a complete outfit is too



FIG. 1. Ground Floor Plan

The ground floor plan of the space allotted to the Physiotherapy Department at Grace Hospital. It occupies nearly all the space on the first floor of one wing of the Private Pavilion.

This arrangement of the rooms has proven very satisfactory. With a central Douche Room and Cabinet and Rest Rooms for men and women on either side, and the two other principal treatment rooms, the Massage Room and the Bake Room, in close proximity, it has been possible to give a large number of treatments daily with a comparatively small staff of assistants.



FIG. 2. The Water-cooled Quartz Lamp Room

We purchased a so-called Hospital Unit which is a self-contained unit and can be wheeled to any part of the hospital building for treatment at the bedside.



FIG. 3. The Massage Room

This is equipped with a Burdick 1500 watt deep therapy lamp; a 500 candle power carbon filament lamp; an air-cooled quartz lamp of the Burdick type; and a controlling cabinet for galvanic and faradic current administration.



FIG. 4. The Men's Cabinet Room

These cabinets were made after our own design. Instead of the plain mirrors we have used parabolic reflectors which focus the majority of the reflected rays directly upon

the patient's body. Consequently the temperature of the box is always below the temperature of the body, even at the end of a thirty minute seance.



FIG. 5. The Douche Room

The first picture shows the control table. This table has been in use nearly twenty-four years, and was among the first built in this country. It is still doing good work. In the more modern type there has been no change in the

general principle of control. At the left of the table are shown the whirlpool baths, one for the arm and one for the leg. We treat these conditions by the ultra-treatment of fractures and other surgical injuries.

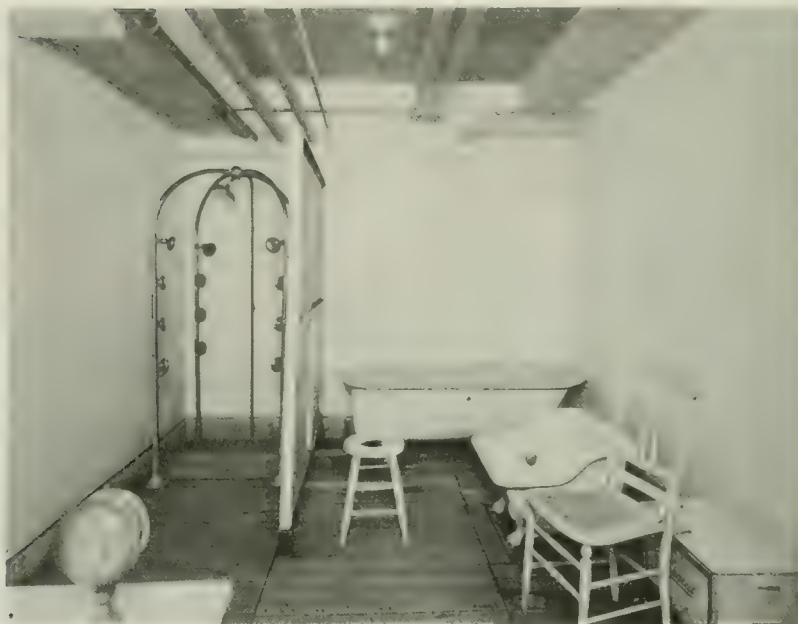


FIG. 6. The Douche Room, 2

The other end of the douche room is shown in this view. Here are the circular and rain showers, the full and sitz bath tubs.



FIG. 7. The Gymnasium

The gymnasium was planned and outfitted for the purpose of providing apparatus for corrective gymnastic work.

Many patients apparently lose the function of arms and legs following a prolonged illness or a severe injury.

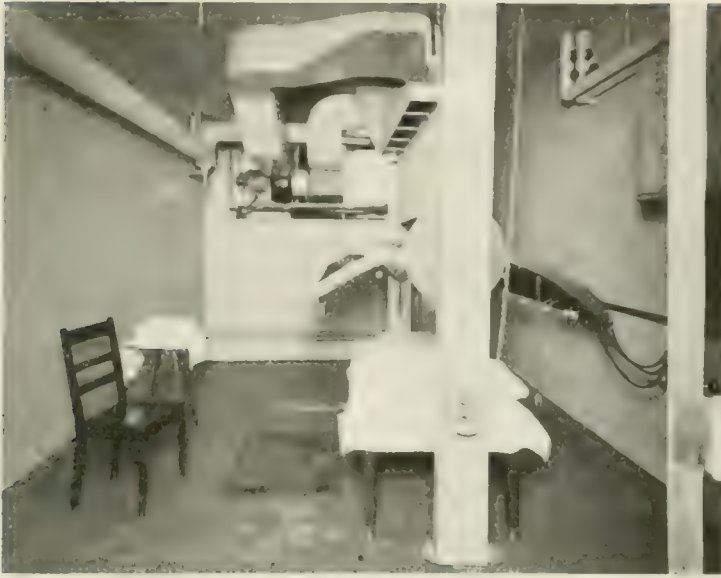


FIG. 8. The Infra-red Room

This view shows a new piece of apparatus called the Gerdes Radiant Energy Apparatus. The heating units you see here are arranged in four rows from front to back. They are similar to the units used in the familiar electric heaters which we have in our homes. Probably the infra-red rays generated by these elements are responsible for the power-

ful effect upon the body metabolism. The inventor has arranged a very ingenious system for blowing cool air upon the patient. The air enters either from the room or from the outside, passes through the conduit and is blown upon the patient through the slit in the canvas bag just over the couch.

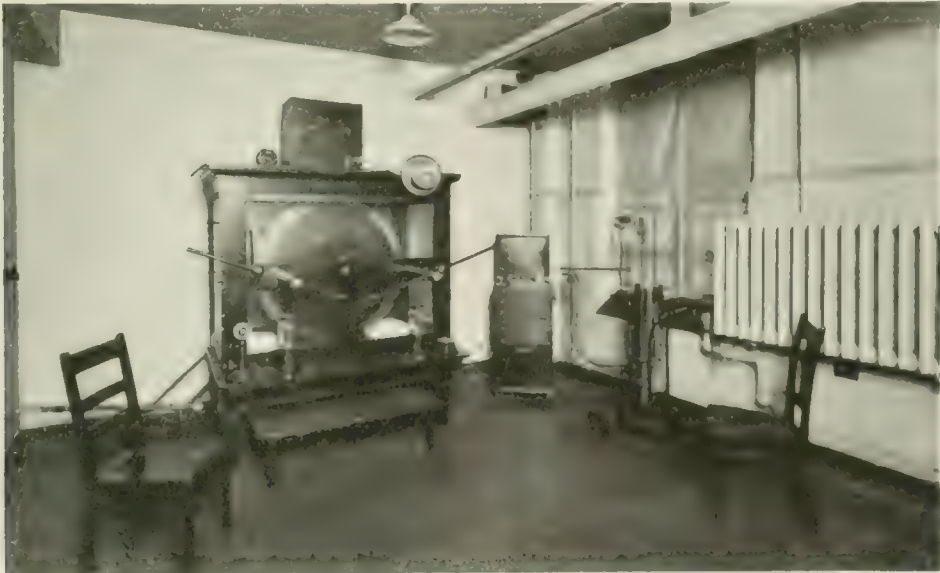


FIG. 9. The High Frequency Room

We still find some use for the static current, particularly the Morton wave current for the treatment of muscle bruises. The cabinet to the right is a portable Laebel Flarsheim coil for treatment with diathermy, autocondensation, etc.

GRACE HOSPITAL
DEPARTMENT OF PHYSIOTHERAPY

Patient _____ Date _____

FORM	TEMPERATURE	PRESSURE	PART OF BODY	DURATION
Infra-red Electric Light Cabinet				
Circular Douche				
Gen. Fan Douche				
Charcot Douche				
Scotch Douche				
Gen. Fan Douche				
Whirlpool Bath				
High Frequency				
Quartz Lamp				
Deep Therapy Lamp				
Faradic Galvanic				

FIG. 10. The Prescription Blank

great for most young physicians, and the temptation is to try to get along with two or three pieces of apparatus. This is another reason why the work should be done in a thoroughly equipped hospital or sanatorium.

The cost of equipping a department of physiotherapy such as I have just shown you is considerable, but the results will, I feel sure, justify the expenditure. Today it would require an investment of about nine thousand dollars to purchase the necessary apparatus after a suitable place had been provided for its reception. The cost of providing the proper housing and installing the outfit varies to such an extent with building conditions in different localities that I will not attempt to give you any approximate estimate.

Many hospitals are interested to know how little apparatus they can get along with and still do good, comprehensive work. The following is a list of what I should consider absolutely essential: a hydrotherapeutic equipment, whirlpool baths, electric light cabinet, one deep therapy lamp, one air-cooled quartz lamp, galvanic and faradic apparatus, and a portable high frequency coil for diathermy, etc. This equipment would cost between three and four thousand dollars.

MANAGEMENT

The department should be in charge of one man who should be held entirely responsible for its conduct. He should see and examine thoroughly every patient, no matter by whom referred, for then and only then will he be in a position to dictate the proper form of treatment needed. He should be a man with good general knowledge of medicine and should have a special training in the technic and application of all physical remedial agents. He should give all or practically all of his time to this work, because it is very essential for him to always keep closely in touch with the patients, seeing them every day at first in order to watch the effect of the treatment and be ready to modify or change it as the case demands. Every patient should be given a prescription which should be closely followed by the attendant who gives the treatment. The prescription should state the form of procedure, the duration, and the part of the body to which it should be applied.

I have shown views of the Department and have given an idea of the character of the work. We have a corps of one male and two female nurses especially trained in this work, and a female attendant for the non-technical work.

THE CLINICAL VALUE OF PHYSIOTHERAPY IN A HOSPITAL

HARRY E. MOCK, M.D., CHICAGO

Assistant Professor of Industrial Medicine, Rush Medical College; Member of Surgical Staff, St. Luke's Hospital

THERE are two sides to physiotherapy, both greatly enhancing its value in the field of medicine and surgery. The one, the scientific side, includes the intelligent use of heat, light, and exercise in an attempt to restore function in body disabilities; the other, the human side, demonstrates the continued interest of the clinician in his patient, furnishes the encouragement so essential during the discouraging days of a long convalescence, and daily renews hope of a final complete recovery with its promise of future usefulness. In so many conditions physiotherapy is the most important factor in the functional restoration of a disabled part. Therefore, it dovetails between the days of complete disability and the days of complete rehabilitation.

In the time, not so far distant, when physiotherapy belonged in the realm of quackery, the physician and surgeon seldom followed his case beyond the early days of convalescence.

Then the patient was dismissed with instructions to soak the part in hot water, sit in the sun, exercise so many hours daily, have some member of the family massage the part, etc. The patient, soon tiring of these unguided, unintelligent efforts, feeling that all had been done for him that could be done, gradually became a cripple, inefficient if he worked, or a self-pitying dependent. Not all fell into this class. Many recovered in time, although the time might have been hastened. Many drifted into the hands of osteopaths, chiropractors, professional masseurs, and the like, who furnished treatment that aided in completing their recovery. Occasionally patients were referred to these non-medically trained individuals for so-called physiotherapy. Whether referred or whether sought voluntarily by the patient, the treatment too often was more detrimental than beneficial.

Today, thanks to the new principles of complete rehabilitation of the disabled injected into our profession during the World War, every physician knows that the cure of his patient is judged by the completeness of his functional restoration and by his final ability to carry on. Naturally we are referring now to the more chronically disabling diseases and injuries which leave behind them functional and physical sequelæ

more or less permanently disabling unless continuously treated until these sequelæ are reduced to a minimum.

The period of medical and surgical care of such cases is usually referred to as the period of Physical Reconstruction. Lapping over into this period and continuing for varying periods thereafter are the stages of functional retraining, vocational re-education, and finally, return to economic usefulness. This is referred to as the period of Rehabilitation. To a large extent these two periods are inseparable. Without co-ordination of their work and co-operation between the surgeon and the specialists in the further stages of rehabilitation, the greatest benefit to the patient will not be obtained.

The history of hospitals and the practice of medicine and surgery is one of constant evolution into greater fields of service to humanity. The last decade marks the greatest period of improvement, especially in hospital practice due chiefly to the standardization efforts of the American College of Surgeons. Hospital staffs have developed a conscience. The question uppermost at all times is: "How can we give the greatest service?"

In answer to this question we have seen every hospital worthy of the name, expand from the original administrative, clinical, and nursing staffs to include each new advance in science or in the humanities that would help in the diagnosis or relief of suffering.

Thus laboratories have been added and these have grown from places for the simplest analysis of blood and urine to include bacteriology, pathology, blood chemistry, basometabolism, electrocardiograph, and every other means for laboratory diagnosis; X-ray facilities, first for diagnosis and later for treatment of certain diseases have followed; every new improvement in operative technic has been adopted; social service departments, with the great human interest in the welfare of the patient is becoming more and more an essential feature; follow-up clinics, prenatal and infant welfare clinics and the weekly staff meetings; these and many other features bear witness to the hospital's effort to furnish the highest standard of service.

Only a few hospitals as yet recognize a further responsibility to the patient than the mere medical and surgical relief of his ailment. Checking the arthritis and discharging the patient with stiffened, deformed joints to await in his home the improvement which, without constant intelligent care may never come, is not curing your patient. Treating the fractured femur or the fractured humerus until union occurs and then discharging the patient with a stiff knee or shoulder joint, is not a cure.

Healing the burns, but leaving the fingers or other joints deformed and stiff, is not a cure. Responsibility does not end in the cardiac case with re-establishing compensation. Note the number of times a heart case has drifted back to the hospital because adequate retraining exercises, careful follow-up of the patient, and provisions for suitable employment were not attended to. To cure tuberculosis or some other protracted disability, as some severe trauma, and then discharge the case as a hospitalized individual or one who has developed some other form of neurosis, is not rendering adequate or complete service to the patient.

Therefore, the enlightened hospital of today must install additional facilities acting as adjuncts to the medical and surgical treatment of disabilities. The aim of these adjuncts must be the attainment of the greatest degree of functional restoration and to assist in the final rehabilitation of each patient.

Physiotherapy, that is, the adaptation of proven physical measures to therapeutic purposes, furnishes the most important adjunct.

The hospital that has supplied one or two of these physical measures, for example, a massage department or a hydrotherapy department, has not fulfilled its duty, although this is better than no physiotherapy. To be efficient the physiotherapy laboratory must include:

(a) A physician, specially trained, in charge, with well-trained physiotherapy aids as assistants. Nurses given special training in this work usually make the best aids.

(b) Workrooms for occupational therapy and facilities to give bedside occupations.

(c) A massage department with special reference to muscle training exercises, bedside massage, etc.

(d) A hydrotherapy department with whirlpool baths, contrast baths, showers, and, if possible, a swimming pool.

(e) An electrotherapy department with diathermy, radiant heat, ultra-violet rays, sinusoidal, faradic, and galvanic currents.

(f) A mechanotherapy department with the simpler forms of mechanical apparatus furnishing exercise and especially mechanical means of measuring improvement in certain deformities. This is as important and gives the same encouragement to the patient as the scales used to watch the gain in weight.

(g) A gymnasium with the simpler forms of gymnastic apparatus and facilities for play and recreation.

(h) A solarium or some place where advantage can be taken of the great therapeutic value of sunlight.

Every disabled hospital case will not need all of these physical measures. The majority would be greatly benefited by the use of one or more of them. No one of these measures is a cure-all, but it is the intelligent combination of the different therapeutic agencies that gives the best results.

If a hospital is equipped with a physiotherapy laboratory the physical measures can start almost simultaneously with the usual medical and surgical procedures. The rule now is, when physical measures are needed, to wait until the patient is discharged from the hospital and then turn him over to a physiotherapy laboratory or too often to a masseur, or allow him to seek these adjuncts at the hands of osteopaths, chiropractors, or others unfamiliar with the treatment already given or with the best means of attaining the desired end. Too much emphasis cannot be given to the fact that this is essentially medical treatment which should be furnished by a trained physician acting in close co-operation with the surgeon or internist responsible for the cure of the patient.

Frequently physiotherapy must continue for weeks after the primary medical or surgical treatment has ceased. In these cases it is better, if possible, to discharge them from the hospital and hospitalizing influences. The next essential and one which must be met by our hospitals in the near future, is a suitable convalescent center equipped for physiotherapy, vocational education, workshops, and other rehabilitation measures. In the absence of such a center the hospital should provide an out-patient service for patients needing further physiotherapy care.

When hospitals add this service to the list of many other services they have provided, they will accomplish the following:

(a) Prevent a great many permanent deformities.

(b) Prevent many cases of functional neuroses so prevalent following prolonged hospital, medical, and surgical care.



FIG. 1

The physiotherapy attendant in St. Luke's Hospital, giving massage, muscle training exercises, and passive motion in a neurosis case. This knee was perfectly stiff for 13 months. By the use of increasing doses of physiotherapy full function was restored to the knee joint within ten days.



FIG. 2

Electrotherapeutic room in the physiotherapy laboratory.



FIG. 3

Physiotherapy laboratory for treatment of ambulatory cases. Here cases are received for the secondary stage of treatment after hospital stage is ended.

(c) Shorten the period of disability.

(d) Turn patients out not as cripples, but as rehabilitated individuals, that is, ready to assume their social and economic duties in spite of physical handicaps.

The author is a general surgeon, not a physiotherapist. Just as he uses the internist, the laboratory specialist, the roentgenologist, the eye, ear, nose and throat specialists, and the dentist to assist him in the diagnosis and treatment of his cases, so he has learned to depend upon the qualified physiotherapist for the same ends.

He has knowledge of the general principles of physiotherapy, but it is not necessary for him to know all the details of this form of treatment any more than to know all the details of X-ray work or certain nasal operations. Therefore, in order to illustrate some of the clinical advantages of physical therapy, it will not be necessary to describe the details of the treatment given.

Fortunately, he is associated with Dr. John S. Coulter, a man extremely well qualified in physiotherapy who has developed in Chicago a large physiotherapy laboratory. Because of his help and his handling of the secondary stage of treatment, better and more lasting results are being obtained in a large percentage of cases. The hospital where the author works furnishes

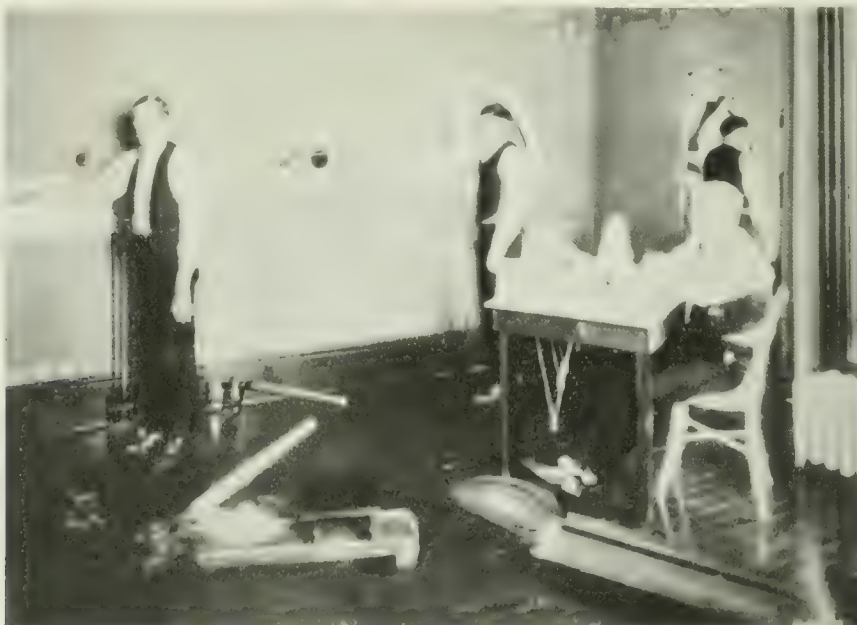


FIG. 4

Simple mechanotherapy appliances. Note the rowing machine which gives movements to practically all the major joints of the body.

limited facilities for physiotherapy, but even these are of great value during the hospitalization of patients. Many cases are able to be referred daily to the physiotherapy laboratory when more extensive physical treatment is necessary.

The chain of treatment in many chronic cases can be divided into two stages and includes the following:

- (a) Primary stage or hospital stage.
 - (1) Surgical treatment, operative and non-operative.
 - (2) Routine surgical dressings.
 - (3) Physiotherapy while in the hospital.
- (b) Secondary stage or after the patient is able to leave the hospital.
 - (1) Physiotherapy at the physiotherapy laboratory.
 - (2) Surgical dressings if still necessary in the surgical dressing room of the laboratory by an assistant familiar with the case.
 - (3) Teaching some member of the family essential features of physiotherapy to be administered by them when patient is from out of town; patient to report back for more extensive treatment weekly or fortnightly.
 - (4) Weekly examination of patient by surgeon and consultation with physiotherapist to observe progress and to guide treatment to its desired end.
 - (5) In certain cases referring them to proper agencies for retraining for work and replacement at suitable employment, thus completing the cure to the period of economic usefulness.

Without the aid of physiotherapy, both in the hospital and after discharge, this rehabilitation of a great number of patients could not be accomplished.

The types of cases in which the author personally has found physiotherapy absolutely necessary include:

1. Recent fractures, dislocations, sprains, strains, ruptured muscles, tendon and nerve injuries, bursitis, synovitis, and similar joint injuries.
2. Back injuries, osteoarthritis of the spine, spinal curvatures.
3. Amputations.
4. Infections, especially chronic infections.
5. Old deformities referred for reconstructive surgery such as ankylosed joints, severed or adherent tendons, ununited fractures or deforming fractures, scar contractures from burns, infections, etc., paralyses following nerve injuries, spastic



FIG. 5

"T" fracture of shaft and between condyles of femur.

paralyses, deformities requiring plastic surgery, depressed skull fractures, and Jacksonian epilepsy, and a large variety of congenital deformities.

6. Chronic infections and persistent sinuses following drainage of abscesses as empyema, osteomyelitis, appendiceal abscess, bovine tuberculous abscess, chronic ulcers.

7. Traumatic neuroses.

While practically all of the above conditions are of a surgical nature, yet physiotherapy is equally valuable in many medical conditions such as chronic arthritis, certain cardiac conditions, selected cases of tuberculosis, many nervous diseases, general debilitating conditions, fatigue, etc.

A few case resumé's will best illustrate the need and rise of physiotherapy.

1. F. D., female, age 16 years, when 14 months old fell three stories and fractured skull. Walked at 3 years, but paralyzed in right arm and leg, developed a spastic equinus and a spastic flexion of forearm to right angle; at 14 began to have contracture seizures in foot, then leg and later in arm; would not lose consciousness, but would see red lights and cry out just before seizure began; attacks, at first two or three weeks apart, became almost daily. Patient referred from Washington to my service January, 1924. X-ray showed depressions in skull with piece of bone lying deep in



FIG. 6

Same as Fig. 5 treated by calipers and condyles with traction and suspension in a Thomas Leg Splint. Thigh and lower leg left open for physiotherapy and the knee joint

moved daily through a radius of 25 degrees. Sent to physiotherapy laboratory for further treatment after discharge from the hospital.

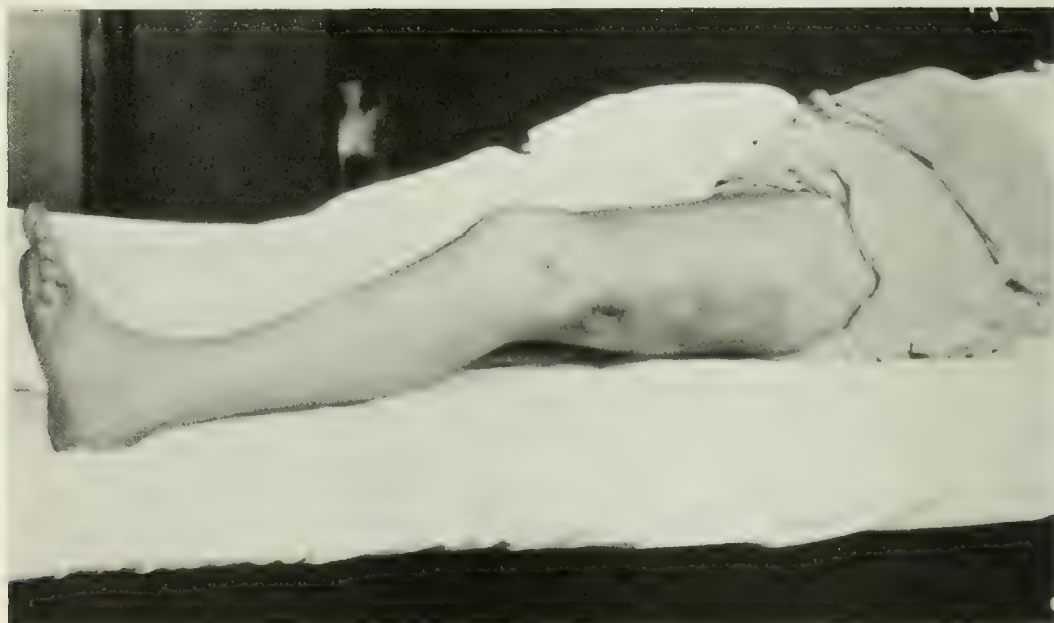


FIG. 7

Same as Fig. 5 showing extension of leg.



Fig. 8

Same as Fig. 5 showing flexion of the knee joint. The early mobilization of the knee joint with the daily use of physiotherapy gave the good results in this serious fracture.

brain substance; location was just anterior to left fissure of Rolando area near sagittal suture. Operation:—Craniectomy, depressed area removed, fragment of bone 2 inches by $\frac{1}{2}$ inch by 1 inch removed from brain cortex about 1 inch below surface. Physiotherapy: Absolute rest for three weeks, then light occupations, light stroking massage, hydrotherapy to arm and leg; at end of six weeks brisker massage preceded by heat and hydrotherapy, resistance exercises very mild, and light exercise of each individual muscle by use of Bristo coil. The mother was taught each of these maneuvers including use of Bristo coil which she purchased. At end of two months child returned home and mother continued this physiotherapy under guidance of family physician. Recent report states that child had one slight seizure in foot two weeks after return home, but no further seizures in the ten subsequent months which have now elapsed; right arm can be extended 50 per cent more than before operation, atrophy of muscles has improved, and while leg is shortened and equinus condition persists to certain extent, yet child walks better.

2. P. A., carpenter, age 37; injured October 21 by falling off shed; treated for strain of back at his home (small town, no hospital). Referred to my service two years later as patient; had not been

able to work since injury. General organic examination negative; functionally patient walked with short, shuffling steps, bent forward with back held rigid, could not raise arms over head, had resigned expression on face. A typical area of anaesthesia present on back and lower extremities. Diagnosis: traumatic hysteria. Patient sent to hospital and routine adopted consisting of: 8 a.m., baking of back and limbs; 8:45, hot, then cold shower bath; 9:00, massage with increasing vigor every day; 9:30, muscle resisting and calisthenic exercises; 10:00, work in occupational shop. Lunch and rest. 2 to 4 p. m., work in shop using lathe and carpenters' tools, increasing daily in intensity. Every day examined by surgeon and improvement carefully charted. At the end of ten days this patient was so interested in his work that he had unconsciously forgotten many of his hysterical symptoms. On that day his case was carefully explained to him, he was put through all the movements which formerly he had been unable to perform, and at his own request was discharged as a cured case. A few weeks later a letter from him stated that he had worked as a carpenter every day since returning home.

Physiotherapy has enabled the author to correct many cases of traumatic neuroses. On the

other hand, routine physiotherapy without intelligent guidance and careful selection of cases has been responsible for creating many cases of neuroses just as any line of treatment may do if it enhances the seriousness of the condition in the patient's mind. The greatest improvement comes from daily showing the patient that he can do the things he says he cannot do. Increasing the doses up to the point of being almost punitive in character is often necessary in these cases.

3. E. C., female, 5 years old, a case of spastic paraplegia, brought from a small town in Florida. No operative procedures indicated. The child and her mother were referred to the physiotherapy laboratory where the mother was taught to give massage and every form of muscle training exercise suitable to these cases. After 4 weeks she returned home; mother has written that child shows improvement and, in addition, she is giving similar treatments to 3 other paralyzed children.

4. T. M., male, 40 years old, fell from scaffold and fractured right femur transversely 5 inches above condyles; a longitudinal fracture through the condyles extending into the knee joint; condyles rotated outward and pulled backward almost to a right angle with the shaft. Calipers inserted into the condyles, a Thomas leg splint applied and traction made through calipers to the lower fragments. Motion maintained in the knee joint to 25° from the start of treatment. Massage given to upper and lower extremities during hospital care. On discharge he was referred to physiotherapy laboratory for hydrotherapy, massage and joint re-education. At end of six months could walk, extend leg completely and flex it to a right angle, although on discharge flexion was limited to 25°.

5. Of all joint cases referred to the author for reconstructive surgery, partial ankylosis of the shoulder joint following injury is the most common. The stiffness is usually due to the prolonged immobilization of the arm in the adduction position, allowing the strong adductors to become contracted, the weak adductor muscles to become overextended and atrophied, and the various bursal and joint capsules to become contracted and adherent. Some of these cases require surgery, but the majority require a short period of traction in a Thomas arm splint, at the same time gradually adducting the arm; the use of hydrotherapy, heat (hot applications or better, diathermy), massage, and passive and active exercises. During this portion of the treatment, which is ambulatory, the patients wear a Crane-Savoney splint or other form of adduction splint which can be adjusted daily so as to increase the amount of adduction and elevation of the arm. These cases require prolonged physiotherapy, first in the hospital and later in the physiotherapy laboratory and treatment is persistent until adduction, elevation, and external rotation of the arm are accomplished to the greatest possible extent.

These few cases illustrate the advantages of using physiotherapy as an adjunct to other forms of treatment. No physician who has had the opportunity of using this adjunct would ever again be deprived of this advantage. It behooves every hospital, and especially those hospitals endeavoring to maintain a high standard of service, to include physiotherapy in its equipment, first as an aid to prevent deforming disabilities, and second, as a means of assisting in the complete rehabilitation of all patients.

AFTERNOON SESSION, 2:00-5:00

FUNDAMENTAL PRINCIPLES OF HOSPITAL ADMINISTRATION
FROM AN INTERNATIONAL VIEWPOINT

E. S. GILMORE, CHICAGO

Superintendent, Wesley Memorial Hospital; President, American Hospital Association

A PROPER consideration of this subject requires that a much wider survey be made of the conditions than time will permit. It seems best, therefore, to limit the paper to what appears most important. First among these are the architectural features. In Europe, Asia, Australia, New Zealand, North Africa, Central and South America, the prevailing type of hospital is a low building, often adobe and usually of one or two stories. This kind of building formerly characterized our North American hospitals since the United States obtained its ideas of structure very largely from Germany, while Canada's came from her mother country. Some advantages prominent in such a type of building are an abundance of sunshine and ventilation, the absence of expensive elevators, and a minimum of fire danger. In Japan until very recently low buildings alone were considered practicable because of earthquakes, but they now are building reinforced concrete structures of several stories. In tropical countries low buildings seem to be most suitable and doubtless in such regions a hospital building of several stories would be inadvisable and probably uncongenial to its patrons. Satisfying the tastes, desires, and prejudices of the patient does much to speed his recovery. Throughout Europe, on the contrary, higher buildings have been appearing from time to time and there are now a number of conspicuous examples. In America, particularly in crowded cities, where ground space is difficult to obtain, hospitals are being built much higher than formerly. St. Luke's, of Chicago, for instance, is a nineteen-story building, which towers into the air two hundred and sixty feet. The obvious advantages of such a building are the primary saving in ground cost, freedom from noise, dirt, and insects in the upper stories, and economy of management. Transportation by elevator is quicker and, therefore, more desirable than locomotion by foot. The increased cost of heavy construction in the lower stories is offset by a minimum for foundation and roof. With our present knowledge of contagion and disease carriers, isolation can be effected just as easily in high, compact buildings as in low, rambling structures. Segregation of

the sexes and of particular diseases can be accomplished much more readily and efficiently. Modern fireproof construction (and, of course, that is the only kind that should be considered in hospital architecture) reduces the danger from fire practically to nothing. The skyscraper looms as large, therefore, both figuratively and literally in our special field as in commerce.

There are great differences of opinions throughout the world regarding the methods of financing hospitals. The most frequent custom outside of North America (and it obtains quite largely with us as well) is maintenance in whole or in part by the state. In England the government supports most of the hospitals and patients go there without thought of paying for services received. The patient desirous of paying for service usually prefers to be attended at his residence or in an institution known as a "nursing home." If this is satisfactory both to the patient and the doctor, no objection could be made provided the patient could get as good care in either place as in the hospital. As a matter of fact, however, even a moderately equipped hospital is far better prepared for the diagnosis and treatment of disease than a nursing home. Just why a man able to get the best when he is well, should take less when he is sick, is beyond my comprehension. The Frenchman believes that since he has paid taxes to support a hospital, there can be no good reason why he should not go there when ill. At the same time, application for admission to a hospital in France is generally considered as a confession of poverty. It is exceedingly difficult for a foreigner to enter a municipally supported hospital in Paris.

In Austria, notably in Vienna, the greatest importance attaching to the patient in the state-supported hospitals is his value as clinical material. In the pay hospitals of New Zealand no inquiry is made of the patient's ability to pay until he is ready to leave. This bespeaks a high sense of unselfish service on the part of the institution, but unless human nature differs greatly in New Zealand from that in this country, the hospital must suffer much unnecessary loss. In India the hospitals are supported or aided by the state but locally managed. Their out-patient department

comprises the largest part of the service. There is nothing inherently disadvantageous in state aid if it is not accompanied by state control. I believe experience has taught us, and taught thoroughly, that government control of hospitals is not conducive to the best interests of the patients. Local responsibility is more sensitive than distant responsibility.

In North America, more particularly in the United States than in Canada, by far the largest part of hospital work is done in institutions where the patient is expected to pay his way when possible. We also have our institutions supported by taxes of city or county or state. To be sure, our state hospitals are usually limited to mental cases, but the principle is the same. By far the largest number of sick people, either voluntarily or otherwise, seek assistance in hospitals that are dependent for most of their income on the patients who patronize them. These institutions are usually chartered as "not for profit" corporations and no part of their income can accrue to the benefit of their trustees. Necessarily, therefore, an endowment must be sought for the maintenance of indigent patients. That these non-pay patients create a great strain upon American hospitals is shown by the fact that the expense incident to their care in 1923 approximated one hundred million dollars. This amount represented the actual cost to the hospital with no estimate of the value of the doctor's services, which at the very least must equal that of the hospital's.

Each country, naturally, is going to follow its own ideas of benevolence and its own peculiar inclinations when providing for its sick poor. In America the democracy coursing through our veins leads us to care for the sick poor and the sick rich in the same or adjoining buildings, where each may have the benefit of the equipment designed for both and where each may have the services of doctors in whom experience and skill are ripened by professional attendance upon both. If this does not meet the mood of other nations, I might suggest that a better service than is given now could be brought about by the segregation of classes in different buildings or parts of one building, under one management and treated as one hospital. The affluent would then contribute to the care of the poor and at the same time their minds would be broadened and enriched by a more than casual knowledge of the burdens borne by those not so fortunate as themselves.

What is a hospital? A hospital is an institution which provides facilities, including personnel, for the extending of medical and surgical assistance

to the sick, for aiding and educating physicians, nurses, community organizations, and the public, and for investigating the cause and cure of disease and the methods of its prevention. To the degree only that a hospital meets all these functions is it fulfilling its mission. Service to humanity is the only legitimate reason for the hospital's existence. The sick can be cared for more successfully, more comfortably, and more economically if they can be gathered at one place, where proper personnel and facilities for the study, diagnosis, and treatment of their ailments can be focussed. This probably is the first duty of the hospital. Certainly it was in the belief that such was its function, that hospitals had their foundation. We may not be actually cognizant of this until an emergency arises, out of which we ourselves become sick or injured and need the services of a specialized institution; then we rejoice that this scientific form of benevolence is kept ever in readiness for the moment of affliction. Hospital people quite generally appreciate, and the public also is beginning to realize, that in the performance of its first duty the hospital can and should proceed to its second, namely, the aiding and educating of physicians, nurses, and community organizations as well as the public itself. A physician may be ever so wise, ever so keen, ever so industrious, and still be unable to do his best in his profession without the equipment and assistance which a hospital provides. His association under one roof with other physicians and the constant employment among them of all hospital facilities teaches him constantly how better to perform his duties.

For years nurses have received their sole training in hospitals. Universities and colleges are now being called upon to assist, but the greater part of the nurse's training must always be acquired in practical contact with the sick. In the prosecution of their relief work, community organizations continuously seek aid in the clinical advantages of our hospitals, while the public by its frequent visits to the institutions either as patient or friend is awakening to the realization of its dependence. It is in the wards and laboratories of the hospital that research in its various forms of study, reasoning, experiment, and trial is constantly endeavoring to ascertain the cause of disease, its cure and prevention. Most of the progress made in the control of the physical scourges of mankind and in the mending of broken bodies has come out of the centralized experience of hospital practice. These are the underlying duties, principles, and fundamentals of such an institution, as I see them.

Let us look now more closely at some of the fundamentals of management in the individual institution. First, the control should be vested in a single head. Some of us have seen a two-headed calf. He was all right as a curiosity, but not much of a success as a calf. A two-headed hospital appears in much the same light. Theoretically and legally the board of trustees or managing board or board of directors or board of governors, that is, the board of final authority, by whatever name it may be called, is the virtual head of the hospital. It should delegate its authority to a single executive with full power to act for it when it is not in session. A division of authority with two or more heads reporting directly to the board and receiving instructions independently and acting more or less without regard for one another in the direction of different departments in the hospital is necessarily associated with friction, with irresponsibility, and a retardation of progress. It is sand on the axles of efficiency.

Efficiency is indispensable, for hospitals deal constantly with life and death. It is essential, therefore, that every means for the attainment of this primary purpose should be provided and every method for checking up results should be employed.

Economy is another requirement. The World War taught European nations methods of economy in hospital management that will be valuable to them for all time and can be studied with profit by American executives. The war also has made European institutions less efficient than formerly, but, as the nations continue their advance to normal conditions, all sanitary regulations will improve and eventually will attain to or even surpass their former standards. There should be no undue expenditure of money or its equivalent, but, on the other hand, an economy which fails to provide the necessary equipment, whether material or human, for the accomplishment of the hospital's purposes is a false economy, which unfortunately is all too often practiced.

There must be loyalty throughout the hospital—loyalty to the patient, loyalty to the governing board, the executive head, the medical staff, the nursing school, and the employees. A disloyal member of the household can give no end of trouble.

A well-organized and well-conducted school of nursing is indispensable to the success of the institution. This training school and the individuals connected therewith should expend their best energies in loyal service to the hospital and in return the hospital should contribute to the

nurse the best professional education that can be had. It is a duty whereby, in turn, they both become equipped to give the best possible to the patient. There should be no exploitation of the nurse. I quote from Mr. Edwin R. Embree, Secretary of the Rockefeller Foundation: "The next great step forward in hospital care in Continental Europe as well as the countries of the Far East, must be in the training of nurses, in recruiting from higher social and intellectual classes, in the development of standards, and the extension of nursing service." Is this not a fair standard by which to gauge the efficiency of a hospital anywhere? An administrative intelligence which sees the need of a better nursing personnel and which provides for it, not only gives better nursing care directly to its patients but also shows the possession of a mental grasp which will provide better medical and surgical attention as well. Nurses are human, although, from the demands sometimes made upon them, one might well suppose them to be superhuman. They respond to kindness, sympathy, justice, and encouragement, even as you and I. I wish every executive might realize that the patients in his institution will get exactly the same kind of treatment from the nurses that the nurses receive from the management. If this were better understood, our hospitals would deserve and would more often receive enthusiastic commendation from their patients than they do at present.

It is due the patient, also, that his surroundings should be as pleasant and comfortable as the finances of the hospital will permit. He is not institutionalized for punitive purposes. He is seeking restoration of health. Clean, cozy, comfortable surroundings should be his by right, partly because the hospital should do its share in the promotion of the esthetic, but more because such surroundings aid in hastening the patient's recovery. Great progress has been made since insane people were chained to the wall and the sick body was placed in quarters repellent to a sensitive soul. Still greater changes are now taking place and the time is not distant, I hope, when hospitals will be so celebrated for their attractiveness that much of the aversion to them which exists among a large part of our people will be dissipated.

If ever a man is entitled to be babied it is when he is sick. His mentality is deeply affected by his physical condition. Sympathy, therefore, is a requisite to be demanded from every person in the institution. It should not be restricted to the nurses and doctors, but should extend to the employees. Every one from scrub-woman to the

president should be imbued with the idea that kindness, gentleness, courtesy, and sympathy are as essential as the ability to perform his or her own kind of work. It is not necessary that the working force or the executive staff of the hospital should perish with the patient, but it is highly desirable that sympathy should be so prevalent that every effort will be made to contribute to the comfort and the welfare of the sick.

The golden rule, the most fundamental principle that must support every activity of the hospital, is that the patient's welfare must be the first consideration. Any other conception is degrading to its possessor. It is for the patient alone that the hospital exists. It is his comfort and his relief that must be sought by all—by doctors, nurses, and executive staff, with every ambition that is best and highest in the soul of man. Teaching is one of the functions of a hospital; but it is not the first in importance. To train nurses to a superior excellence in the management of the sick is highly desirable and to train young doctors in the practical details of their profession

is very necessary; but, when a hospital is so conducted that the student's welfare rather than the patient's becomes the first consideration, then that hospital and that teaching force have woefully misconceived their mission and students trained by them will go into their life work lacking courtesy to the patient, devotion to human ideals, and that intense desire to ameliorate the suffering of others, which should be their profession's brightest adornment. Their attitude is the direct result of their contacts and a direct reflection upon the teaching standards of the hospital.

Nations may disagree about what is best in the architecture, organization, and the methods of financing their institutions. They may honestly entertain diverse ideas of their duty to the community, but there can be but one conception of the relation between the hospital and the patient. The hospital which does not place the patient's welfare first, above that of nurse, doctor, or executive staff, and does not emphasize this primacy in all its departments, is unworthy of the name it has so shamefully misused.

FINANCING CLINICAL PATHOLOGY IN THE MODERN HOSPITAL

WARD T. BURDICK, M.D., DENVER, COLORADO
Secretary of the American Society of Clinical Pathologists

IT is again my privilege, as the representative of the American Society of Clinical Pathologists, to express appreciation of your courtesy in extending the opportunity to present a subject in the endeavor to effect a reconciliation in what has probably been one of the most difficult problems which has confronted the advocates of hospital standardization up to the present time.

It is the purpose of this presentation to represent a composite of the opinions derived from the Fellows of the Society as the result of a questionnaire.

The concluding paragraph of the communication, presented a year ago before the Congress at Chicago, may be quoted: "In closing may I suggest the appointment of a committee by the American College of Surgeons to co-operate with a similar committee from the American Society of Clinical Pathologists, to formulate a plan of financing the department of clinical pathology in the hospital?" In the absence of action proceeding from this suggestion, it is deemed proper to again present the matter for consideration, with the hope that an agreeable plan might be developed.

The subject is one which is best approached with due consideration of the five chief partici-

pants, or those principally concerned, namely: (1) The American College of Surgeons, (2) The Hospitals, (3) The Attending Physician, (4) The Patient, and (5) The Clinical Pathologist.

(1) The American College of Surgeons is generally regarded as a most powerful constructive agency operating in the field of medicine. Under its influence the chaff in surgery is being winnowed out, unnecessary operations eliminated, and illegal ones curtailed. Hospitals are transformed from mere boarding houses to institutions of science. Uniformity in the recording of cases and the bringing together of staff groups at regular intervals for the interchange of views and the scientific discussion of cases has been accomplished. As most pertinent to this presentation, however, may be mentioned "The Minimum Standard" laid down by the College, which reads: "That diagnostic and therapeutic facilities under competent supervision be available for the study, diagnosis, and treatment of patients, these to include at least a clinical laboratory providing chemical, bacteriological, serological, and pathological services." Thus, the seed of scientific medicine is likewise being implanted, and valuable methods of diagnosis, which come

within the realm of clinical pathology, are now advocated as routine measures to be applied to all patients who enter the hospitals.

"Competent supervision" is interpreted by the College as meaning a Clinical Pathologist; and the laboratory procedures which are suggested as a minimum routine for all patients are: qualitative analysis of the urine, cytological analysis of the blood, and the histological examination of all tissues, apparently diseased, removed at operation. This in the opinion of E. W. Willets, of Pittsburgh, is "an irreducible minimum," and, R. Ottenberg of New York City adds, "Is not too much to demand of a standard hospital." Kano Ikedo of Minneapolis states, "The first and primary function of the hospital laboratory is to aid in correct diagnosis and to guide in proper treatment by furnishing to the attending physician certain negative and positive findings." H. C. Sweaney of Chicago, voicing the consensus of opinion, believes that these requirements should be broadened for, "the benefits to be derived are too well known, especially when a thoroughly trained man takes the work in hand."

The impossibility of all standardized hospitals obtaining a full time Clinical Pathologist may be gleaned from the fact that, according to estimates, there are less than 800 Clinical Pathologists available at the present time, while in the United States there are 806 hospitals with a bed capacity of 100 and over, to say nothing of the numerous smaller ones. Furthermore, many Clinical Pathologists are occupied with their private laboratories and are hence reluctant to accept full-time positions, especially in view of the uncertain economic state of hospital service. However, Frank W. Hartman of Detroit, states that competent supervision would not necessarily mean that the clinical pathologist must be a full-time member of the hospital staff, for, according to A. H. Sanford of the Mayo Clinic, "His time might be divided with a minimum of two hours a day to be spent in each laboratory." T. H. Boughton of Akron, Ohio adds, "A small hospital can usually arrange for such service by co-operation with a larger one if the expense is too great to maintain a completely equipped laboratory and staff. We have this arrangement with three such hospitals, one in Akron and two outside." Voicing the same sentiment which, in view of the scarcity of workers in this field, is the consensus of opinion of the clinical pathologists, F. C. Narr, of Kansas City, states, "For smaller hospitals I can see no objection to having one pathologist supervising the work of two or three."

As the question in hand pertains to the financing of this new department, our attention will be directed to the manner in which the subject is viewed by the hospitals.

(2) Hospitals generally have adopted the ideals as suggested by the American College of Surgeons. One cannot view the efforts of these institutions to comply with the standards without feeling a sense of pride and satisfaction. By their efforts the standard of medicine is being elevated, in spite of the fact that they have encountered stubborn opposition.

These institutions have had to meet the complaints of patients against the extra charge for routine laboratory work. This has been largely due to the apathetic attitude of some physicians and surgeons toward standardization. But, says V. L. Andrews of Pittsburgh, "The public generally is becoming educated to the fact that a laboratory is a great help to the doctor and many of them are demanding laboratory work and are going to doctors by preference who have this work done." And, observes Frederick E. Sondern of New York City, "Patients complain against charges for laboratory work only when the attending physician neglects to inform them in advance that this is a necessary expense, just as his fee is a necessary expense." Regarding the fear that has been expressed in some quarters that insistence upon this added expense is resulting in the opening of small non-standardized hospitals to the detriment of the larger ones which are trying to maintain the standards, Harry J. Corper of Denver, in agreement with the general opinion, has to say, "There is just as much justification in the hospitals' opposition to doing good clinical pathology on the basis of the patients complaining against the extra charge for laboratory work as there would be on the basis of the patients complaining against the surgeons' or internists' fee—true, some patients complain about both, and the poorer grade hospitals will crop up now and then in violation of standards, but we notice that the Mayo Clinic has not become extinct nor closed their doors for lack of funds. When the public becomes educated to the fact that first-class service can only be obtained in Class A hospitals with good laboratories, then this cry will cease." While A. H. Sanford of the Mayo Clinic assures us that, "The public are appreciating more and more the value of laboratory work, and will soon ask to go to hospitals where they are not only charged for such service, but where they know they can get good laboratory work. I personally have seen a great change in the attitude of the public toward the Wassermann test alone. A few

years ago I would conceal from the patient the true nature of the test. Now it is very common for a patient to say, 'Are you going to do a Wassermann test?' They are always satisfied when the reply is in the affirmative."

Thus hospitals may be reasonably assured that sentiment is crystallizing on all sides and it is only necessary to maintain a firm stand. All opposition will soon fade into thin air.

(3) Patients have complained, with reference to routine laboratory work, that it is unfair to charge for something which they have not requested. They look to their attending physician for all service essential to their case. In many instances those in attendance do not advise them with reference to the charge and in some cases have even told them not to pay it. "But," says M. L. Holm of Lansing, Michigan, "all patients prefer to go to the better equipped hospitals. We know that patients are in the habit of paying for treatment only, but it is comparatively easy to train them to realize that medical service is not always measured by pills and stitches." As L. S. Lippencott of Vicksburg views it: "Education is the solution and education must be applied to physicians as well as patients. The physician must be made to realize that laboratory service is necessary and must explain to his patient. One factor that makes the physician slow in this regard is his unwillingness to admit to his patient that there is something which he cannot do." "Moreover," says F. C. Narr of Kansas City, "every hospital has a right, for the protection of its reputation, to require that every patient admitted to it be adequately studied in order that a correct and complete diagnosis be made and proper treatment instituted. If the attending physician will not see to this, then the hospital, in self-protection, should." "The physician," thinks Robert F. Maul of Denver, "must be gradually taught that the laboratory is just as essential in the hospital as is the operating room."

(4) Physicians, many of them, are open to censure for their apathy, not to say hostility, toward standardization; especially in the earlier days of the movement. Even Fellows of the American College of Surgeons are not without fault in this direction. In the beginning there was not only indifference, but almost a solid wall of opposition. Many took the position that there was no precedent to justify the introduction of routine laboratory tests on hospital patients; that, if this must be done, a technician might be employed on a small salary in order to obviate the added expense.

"It is usually the man of the old school who takes such a stand," says C. L. Klenk of St. Louis, "the more modern man, if he makes such a statement does so only because he is ignorant of the responsibility of the pathologist." "And," adds Philip Hillkowitz of Denver, "technicians cannot interpret the findings any more than we should expect nurses to perform operations." We are reminded by Sanford of the Mayo Clinic that it takes about ten years for the profession to accept a new idea. "There is always opposition to anything that is out of the old order," states W. F. Thomson of Beaumont, Texas; while Dr. Ruth Gilbert of the New York Department of Health, at Albany, has to say, "If one compares the present attitude of physicians in regard to laboratory work with their attitude ten years ago, it will be noted that a marked change in favor of clinical laboratory service has occurred, and this tendency will undoubtedly continue since medical schools are emphasizing more and more the importance of laboratory work. The unfortunate demand in certain localities for 'cheap' laboratory service seems one of the greatest hindrances to progress. Unless the character of the work is satisfactory, it is obviously better not undertaken. Nothing can be worse than false or misleading reports. The fact that an unsupervised technician does certain tests well, may lead physicians to place confidence in work less efficiently done and thus tend to discredit laboratory work in general in the minds of the physicians concerned."

My personal opinion in this matter may be expressed as follows: The technician occupies the same relative position to the clinical pathologist that the nurse does to the surgeon. One would not expect the surgeon to cut sponges, clean instruments, prepare the operating room, make the patient ready for the operation, and clean up after it is over. Technicians likewise absorb much of the detail work in connection with the clinical laboratory. Many of them do become proficient in the technic of some of the lesser procedures, but in no case are they qualified to correlate findings with the clinical condition of a patient, any more than a nurse in the operating room would be qualified to perform a laparotomy. True, many of them might conduct the mechanics of an operation very credibly, but it would be unsafe in the absence of the background of a medical education to permit them to assume the responsibility.

(5) Our first thought as we approach the question of financing Clinical Pathology in the modern hospital from the view point of the Clinical Pathologist is the avoidance of any measure, the adoption of which might impede the development

of Clinical Pathology as a specialty in medicine. It is to be noted that this specialty has evolved, not in connection with the hospitals, but in private laboratories in the medical communities. The development of the emolument of the Clinical Pathologist has been through the laboratory fee which was commensurate with the amount of work involved and the refinement of the clinical diagnostic procedure. Pioneers in this branch have not been fettered by the heavy hand of servitude but have, in common with their colleagues in other specialties, enjoyed the stimulus of adequate compensation for each transaction. These considerations therefore should guide those concerned with the growth of this phase of hospital standardization that due care be exercised to preserve, within the hospital, the same economic status for the Clinical Pathologist that prevails without.

As there exist various relatively common fees for different surgical procedures, which through custom have become more or less stable, so likewise has the force of precedent established a reasonable emolument for many of the operations of the clinical pathologist as was shown by a recent survey among the pathologists of the country, which definitely established the value which time has placed upon the usefulness of the Clinical Pathologist. The question has been propounded on several occasions of late as to the amount of compensation which an experienced Clinical Pathologist should receive for full time services.

Obviously it would be incompatible with good judgment to expect a surgeon of standing to relinquish his private practice and identify himself exclusively with one hospital at an income of, for example, less than \$10,000 per year. And there would be relatively few who would consider such a stipend equal to the sacrifice. As a matter of fact, few well grounded surgeons would think of accepting a salaried position of this character, not only because of inadequate reward, but of its servile limitations as well—to say nothing of the inevitable precedent of paving the way to state medicine; few of us wishing to become institutionalized.

The Clinical Pathologist likewise, desiring to maintain his status as a consultant in medicine, will best co-operate with the hospitals in the establishment of adequate laboratory service on a basis similar to that which obtains with relation to the surgical service or that of internal medicine.

The greatest difficulty in the financing of pathological laboratories in connection with hospital standardization seems to have proceeded from the confusion arising from the two positions which clinical pathologists as directors of hospital

laboratories have occupied. Primarily the Clinical Pathologist, especially in his private pursuits, is a consultant; comparable to other departments of medicine. In this capacity his position is quite distinct from that of the director of a laboratory maintained by a hospital for the maintenance of its standard and its service made mandatory upon the physicians and surgeons enjoying its privileges. The financing of these two positions must necessarily develop in dissimilar ways. It is unnecessary therefore to refer to the methods or fees to be applied in consultation practice. The hospital will be compelled to sustain its laboratory and operatives as other additions and improvements are provided for. It would seem most reasonable as a basis for determination that the entire expense of the laboratory, the value of its space, the apparatus and material required, adequate compensation for director and technician, should be determined. This amount should be added to the gross income of the hospital and pro-rated in addition to the standard charge of accommodations which have prevailed. This implies the recognition of a dual capacity for the clinical pathologist who serves as a director or pathologist in the hospital laboratory. His compensation from the hospital is for his service as an indispensable part of modern hospital standard and is, therefore, essentially different from his employment as a consultant of choice of the attending physician or surgeon of the patient. In the latter instances he is obviously the choice of the physician and patient, while in the former he is the necessary adjunct of the hospital for the maintenance of its standard and, oftentimes, an uninvited, if not objectionable, necessity to the attending physician; hence the basis for criticism of implied injustice.

This has an analogue in the position occupied by the railroad surgeon or the physician retained by any other industry, for the maintenance of certain standards or ideals. Such men are secured at a stated retainer and their positions as consultants or private practitioners are in no way curtailed. The upward trend of humanitarian ideals requires the industries to establish certain standards of health protection for the promotion of which physicians or surgeons may be retained. Likewise, the advance of scientific medicine has made it necessary for the modern hospital to establish a department of clinical pathology which demands the services of a clinical pathologist. When, however, the fulfillment of the minimum requirements of standardization has been reached, his position assumes that of a consultant and his remuneration should be determined accordingly.

Referring again to the minimum requirements of the College of Surgeons which reads "That a clinical laboratory be *available* for the study of cases, etc., . . . that a Clinical Pathologist be in charge and that certain tests be done upon the patients when they enter the hospital." It is apparent that the College does not require that all of the refinements of clinical pathology be furnished to the patrons of the hospital on the same basis as light and heat; but, that they be available, convenient, at hand, so that they may be utilized when required.

In conclusion it seems advisable to emphasize the dual position which has been occupied by clinical pathologists associated with hospital service.

That the subject of financial support of clinical pathological pursuits essential to modern hospital standardization cannot be satisfactorily determined without provision for each or both positions in which the Clinical Pathologist may be employed.

That the portion of the service performed as a

part of the hospital routine is an obligation of the hospital. Special pathological determinations which are deemed sufficiently necessary by the attending physician and surgeon in individual cases as to be required for the elucidation of the clinical state, or to determine the character and amount of treatment, is an obligation of the patient similar to an opinion rendered upon solicitation of the attending physician and compensation determined accordingly.

When such services assume the character of consultation contributing to the understanding and interpretation of the disease, the fee should be anticipated according to the standards established in private laboratories. The security of the fee for such special service devolves upon the attending physician, or hospital, or both. The freedom of consultation within the hospitals should not be restricted; but should be extended to all clinical pathologists of standing according to the preference of those concerned, as obtains in other specialties.

HOSPITAL ADMINISTRATION IN NEW ZEALAND

ALEC R. FALCONER, C.B.E., M.B., CH.B., DUNEDIN, NEW ZEALAND

Medical Superintendent, Dunedin Hospital

I FEEL it a great honor to have been asked to address this Hospital Conference, particularly in view of the announcement made yesterday that the Dunedin Hospital, with which I am connected, has been placed upon the approved list of hospitals of the American College of Surgeons. My hospital will consider it a signal honor to have been the first hospital outside the North American Continent to have achieved that distinction.

It is a great inspiration to a medical superintendent from a country so isolated as we are to meet so many people who are so enthusiastic about all phases of hospital management. We realize the great advances made in America in hospital administration, and that you are the first country to adopt a system serving the best interests of all patients, the well-to-do and the poor, as well as the best interest of the entire profession of medicine.

The New Zealand Health Act of 1920 (Repealing the Public Health Act of 1908) provides for the establishment of a Department of State, called the Department of Health, under the control of a Minister of the Crown, called the Minister of Health. The chief administrative officer is the Director-General of Health. The Department

comprises the Divisions of Public Hygiene, Hospitals, Nursing, Dental Hygiene, School Hygiene, Child Welfare, and Maori Hygiene, each of which is under the supervision of a divisional head called the Director.

One of the functions of the Department of Health is the "organization and control of medical, dental, and nursing services, so far as such services are paid for out of public moneys, not being services in connection with any institution established under the Mental Defectives Act 1914." Under this regulation the Department has itself provided seven maternity hospitals, two tuberculosis hospitals, and four other special hospitals. The Department steps in and provides such hospitals to meet a special need in the hospital service of the country that has not been otherwise provided for and controls the same until the time is ripe for the hospital boards to take such institutions over. The Department does not desire to run a hospital service of its own independent of the hospital boards.

The main responsibility for providing and administering hospitals is cast by the Hospital and Charitable Institutions Act of 1909 on local bodies called hospital boards. Hospital boards are elected on the adult franchise every two years, on

the same day that the municipal and county elections take place. There are forty-four hospital boards controlling seventy-four general hospitals, three hospitals for chronic cases, four for infectious diseases, five sanatoria for tuberculosis, one sanatorium for general cases, and seven maternity hospitals. The seventy-four general hospitals had 5,307 beds in 1923, of which the average number occupied daily was 3,586. (This is exclusive of the other institutions mentioned belonging to the hospital boards and the government.) The average annual cost of maintaining a general hospital bed was 184.5 pounds which is \$2.25 a day. The maintenance charge is nine shillings per day or about \$2.00 a day. There are four hospitals in the first class; each having a bed capacity of between 300 and 500, and an average of over 200 occupied beds daily, while in the sixth class there are twenty-seven having under ten occupied beds daily; the other classes are progressively intermediate. As pointed out by Dr. Elliott yesterday, there are too many controlling hospital boards in New Zealand—a circumstance tending to nullify the efficiency of the entire hospital system. Hospital boards are also the charitable aid authorities and provide outdoor relief, and custodial care in institutions separate from the general hospitals.

In the June number of the *Journal of Surgery, Gynecology and Obstetrics* for 1924 there is a concise and accurate account of present day hospital administration in New Zealand written by the Director-General of your College, Dr. Franklin H. Martin. Many details are given, which I am thus enabled to omit from this paper. The article points out that, like the great hospital in London, admission is confined to the "pauper poor," or those who are able to pay a small fee for hospital care. The attending staff, known as the honorary staff, are the outstanding men of the profession and conscientiously devote their time and skill to the patients welfare without compensation. Private patients are at a disadvantage and are forced to go to "nursing homes" often ill-equipped compared with the general hospitals. The article concludes: "As soon as the profession and people of Australia and New Zealand learn of the inconsistencies and the difficulties which are the result of the situation, they will do one of two things, either they will allow their general hospitals to degenerate into purely pauper institutions by encouraging the building of more comprehensive private hospitals, or they will do what would be much more advantageous—combine with the large and expensive equipment of general hospitals, pavilions

equipped to care for patients of means who may then pay not only their hospital treatment but also for the professional service which they receive from their physicians and specialists."

A review of the past development of the hospital system in New Zealand, which is made in this paper for the first time, might be interesting to you, throwing some light as it does on the position discussed by Dr. Martin, as well as affording some indication as regards the trend that future development of hospital administration might be expected to follow in New Zealand. We can always better understand any subject, such as a national hospital system, if it is illuminated by the light of history.

New Zealand was annexed to the British Crown in 1840. Representative government became effective in 1853 when also six to eight provinces were established to deal with such local matters as the provision of hospitals. From 1853 to 1876 hospitals were a maintenance charge on provincial funds, that is, local hospitals were provided by the local taxpayer. In 1876 provinces were abolished. From 1876 to 1886 the hospitals were governed in a variety of ways. The Dunedin Hospital and some others were under the charge of committees appointed by the general government. The patients were of the indigent class, and the expectation and hope was that the hospitals would be supported largely by voluntary donations, as in England, and only in small part or not at all by government subsidy. What happened was that while some districts (notably Dunedin) did largely voluntarily support their hospitals, other hospitals further north depended, almost entirely, on government aid—largely determined by political pull in obtaining such assistance. The Inspector of Hospitals (Dr. Grabham) criticized the position in 1885 on the following lines: That the free hospital treatment by the government was pauperizing the population to an alarming extent; that the patients were often not fit objects for charity; that the collection of maintenance money was very defective; that the management was extravagant because each locality benefited almost wholly at the expense of the central state government; that the absence of a system of subsidizing the local efforts to raise money in support of the hospital discouraged attempts to do so. Dr. Grabham drew the attention of the government to the successful working in the province of Ontario of an Act to Regulate Public Aid to Charitable Institutions," in which the government contributed a fixed sum per day, and an additional sum, not exceeding one-fourth of all private and municipal subscriptions.

Dr. Grabham also drew attention to the law of settlement in Massachusetts.

New legislation then came into force in the Hospitals and Charitable Institutions Act of 1885. Under this Act control was given to a board of trustees for each hospital, appointed by combined county councils and municipalities, who were locally assessed for the maintenance of hospitals. A great reform was thereby enacted as local attention was concentrated on institutions which had to be locally paid for and managed. Previous to this Act "the hospitals were powerful, though indirect, agencies in pauperizing the people," (Dr. MacGregor's report), but the new boards "were face to face with the tax gatherer." The leading ideas embodied in the Act of 1885 were:

(1) To decentralize administration as much as possible and at the same time check the evil tendency towards the multiplication of small local bodies inaugurated by the abolition of the provinces in 1876.

(2) To remedy the want of uniformity and justice in the distribution of subsidies to the different districts without at the same time drying up the springs of charity.

It was still hoped that private donation with government subsidy would be sufficient to maintain the hospital and until such time arrived (there being few wealthy men in the community) assistance was sought from municipal rates to temporarily supplement the private donations, on both of which government subsidy was payable. Unfortunately the unexpected happened. The Act successfully decentralized administration but the "town versus county" cry led to a multiplicity of local bodies which almost "paralyzed the working of the Act" (Dr. MacGregor); also voluntary subscriptions for maintenance purposes almost entirely stopped as soon as the municipality rate was inaugurated, even though the government subsidy was distributed in a more equitable manner. On the other hand capital expenditure for buildings was often largely found by community drives as you know them in the United States.

By further legislation under the Hospitals and Charitable Aid Institutions Act of 1909 hospital boards were appointed by a direct vote of the people, with power of making a direct hospital levy on the ratable capital value of the district—such rates being collected by the various municipalities and county councils on behalf of the hospital board. The 1909 Act in New Zealand took cognizance of the report of the Poor Law Commission in England, and charitable aid

distribution and custodial care were added to the functions of hospital boards; while the dictum of the minority report of the Poor Laws Commission "that the authority responsible for the cure of the disease should be responsible for the prevention as well" led the legislature to make the hospital board the local sanitary health authority as well. Incidentally I may mention that in this latter duty the hospital board failed to function. Speaking personally, I found I had no time to devote to this work as well as to my duties as a medical superintendent. By local arrangements the provincial state medical officer of health helped us out. In the 1920 amendment to the Act this duty was taken away from hospital boards and placed under the municipality, an action taken under the guiding principle found satisfactory in the army that "the authority responsible for making the nuisance should be responsible for preventing the same."

Reverting to the question of paying and private wards: In recent years a marked change has taken place in the psychology of the people in regard to admission to the wards of a hospital. The hospitals were primarily instituted for the indigent patients but the maintenance charges (nine shillings a day) have gradually been increased until they nearly cover the full cost and are collected from those patients who can afford to pay in whole or part. As a consequence the average person does not consider the hospital in any way a charity. The patient does not realize that the services of the honorary medical attendants are unpaid. When this is pointed out to him the answer is, "Well, let the surgeon take a salary like the rest of the staff. That is only fair. We want no charity." Even those patients who pay little or nothing in the way of maintenance fees (and they are the majority) consider they are not receiving charity as they pay towards the cost of the institution in their municipal rates (small though their individual proportion may be).

The essential hospital problem in New Zealand, as I see it, is this: No one who gives the position a moment's intelligent consideration can fail to see the absolute justice and great advantage of the American system of "community hospitals" catering for the interests of all classes in the community. But can a municipal hospital undertake such a function successfully? Does any municipal hospital in America furnish a precedent we could copy? Should we seek in New Zealand to change the municipal system into the system obtaining largely in Canada, where an incorporated body subsidized by the municipality and

the state controls the hospital, or by church organization as in the United States and Canada, or should we press the municipal hospital to enlarge its functions? Personally, I agree with Dr. Martin that this latter is the best solution, though I have traveled right across the North American continent before finding a municipal hospital which to any extent does so. It is the Boston City Hospital, and I understand that the Worcester City Hospital is the only other in your country running on similar lines.

We cannot hope to have in New Zealand heavily endowed institutions like you have in the eastern region of America, catering not only to the well-to-do patients but to the poor. We have not the wealthy class among our citizens as you have in America, or as they have in Great Britain.

Dr. Martin, in his paper mentioned above, expresses his surprise that countries like Australia and New Zealand, which have shown so much independence in the establishment and organization of their governments, have not exercised the same initiative in the organization of their hospitals by breaking away from the obsolete tradition of Europe.

The general body politic in New Zealand, in my humble judgment, considers that the main obsolete tradition to be discarded is in considering a hospital service as a charity, and not as a right. The history I have given you shows historically this trend. If our municipal state system is to continue, the question of remunerating the attending surgeon and physician for the work they do for the municipalities or the state must come up. Is the attending staff to remain honorary with the right of attending their own patients in the private wards, as in the Boston City Hospital? Is the attending staff to be paid for the work they do for the municipality or the state, and contract with their own patient for their professional care, as in some of your University hospitals? Or is the surgical staff to be fully salaried and the professional fees from all patients to be paid into the general exchequer as at Ann Arbor, Michigan?

New Zealand was largely assisted sixty years ago in formulating its hospital system on information then obtained from America, grafting that on to the British Hospital system. Sixty years later New Zealand is seeking from your experience to catch up with the improvements you have made.

ROUND TABLE CONFERENCE

CONDUCTED BY CARL E. BLACK, M.D., JACKSONVILLE, ILLINOIS
 Surgeon, Passavant, Memorial, and Our Saviour's Hospitals

I. THE RECEPTION AND DISCHARGE OF PATIENTS IN A HOSPITAL

RAYMOND G. LAUB, M.D., BROOKLYN
 Medical Superintendent, Greenpoint Hospital

IN the busy, everyday life of our hospitals, where new methods are constantly being employed to increase our efficiency, we are rapidly reaching a point where our patient is not regarded as a human being at all but part of a vast card index system.

It is about time that we take stock of our shortcomings in this line and bend all of our efforts in the future toward stressing the human element. I am sure the dividend return will be great for a very small investment.

If the patient is to be brought in by ambulance, care should be taken that this be warm, comfortable, and immaculate, with a courteous physician and chauffeur in attendance who should arrive at the patient's home at the exact time arranged for, eliminating all clanging of gongs and other display. It is extremely essential that the driving be slow and careful, both for the safety and comfort of the patient and physician.

The patient should know, in advance, as closely as possible, what charges he may be expected to bear, as the economic factor today is of vital importance and much complaint is occasioned by numerous additions to his bill, which he was not prepared for.

If arrangements for admission are made by telephone, a courteous and competent telephone operator and information bureau are essential. First impressions are lasting ones and you sell your hospital early by the treatment received from these two extremely important parts of the institution.

The next important factor in the reception of a patient is a considerate, kindly, and competent admitting physician, who, by tactful handling and a few words of cheer, can help to put the patient at ease. We must care for property and clothing and have certain data for records, but there are many ways of getting this information without annoying the patient. This should preferably be obtained from the nearest relative so that the sick person may not be needlessly disturbed.

The reception department should be as homey as possible. A few plants or flowers, appropriate

hangings, and the new type of hospital furniture make this possible with very little additional cost.

Religious consolation by a member of his own faith should be offered, and, if desired by the patient, obtained without delay.

Early introduction to the Social Service Department is a great help. These kindly women can make home visits if needed, reporting on conditions, placing out of children for poor people and transacting such business as may be necessary. We have had numerous instances where such visits have been of vital importance, preventing dispossession proceedings, etc.

When the patient is ready to go to his room or ward, an attendant should accompany him and introduce him to the Doctor and the Nurse in charge. If this little detail is arranged beforehand, the patient feels at home and that interest is being taken in him.

Pamphlets should be on hand for distribution to relatives and friends, containing:

1. Telephone number.
2. Visiting hours.
3. Nearest route by automobile or street car.
4. What food is allowed.
5. Name of the house surgeon or physician and the nurse in charge.
6. Hours for discharge, etc.

Such a pamphlet can be most valuable from the standpoint of publicity, containing, in addition, a brief history of the institution, its major activities, clinic hours, educational advantages, etc.

If desired by the patient, the husband or wife, mother or father, or fiancée should be allowed in the anæsthetizing room. This helps alleviate fear and shock. Holding the hand of a loved one gives the greatest consolation to the patient while undergoing an anæsthetic.

Particular care should be taken, on admission, to get operating consent, in writing; history of previous hospital admissions, Board of Health examinations, X-rays, Wassermanns, sputa, etc., so that no further inconvenience is caused the patient on this score.

I might also stress at this time the importance of proper care of valuables. It is our policy to suggest that nothing of this nature be brought into the hospital. If this is done, the reception valuable book, which is signed by the nurse in charge and patient, properly receipted by the property clerk (the valuables being placed in the hospital safe), eliminates complaint. It is my policy to let complaints of this nature take precedence over everything else, so that in the past six years we have only had two complaints regarding property and these were both on cases which had been picked up in the street, lying there for a considerable period before the ambulance was sent for.

When the patient is ready for discharge, the exact time having been set so that no delay is occasioned to either the patient or relatives, a cheerful good-bye and good luck on the part of the house staff, nurses, and social service goes a long way toward a pleasant remembrance and a future good word for the institution. This is also facilitated by having the hospital bill, clothing, valuables, etc., ready on time.

It is very easy for the Social Service Department to make arrangements for ambulance or taxicab, barber, hair-dresser, or tailor, and this service should be made a part of our discharge system. How often have we seen patients leave our hospitals bedraggled in appearance because they did not know a hospital could do or get these things done for them.

Enclosed with the hospital bill should be a brief statement of the patient's stay, operative work done, etc. This is appreciated, helps the outside physician, hospital or dispensary, and saves future correspondence. There should be no venereal disease information contained in this statement unless the patient particularly desires it.

If the patient is to return to the Out-Patient Department, a special slip should also be given him. This slip should contain sufficient information for the dispensary physician to properly follow up the case. The dispensary hours, telephone number, etc., are printed on the reverse side.

Convalescent care through the Social Service Department is arranged for so extensively in this city that no mention need be made of it here. The service should be improved in some of the other communities, however.

Cases discharged from special services, such as Maternity, should have pamphlets given them briefly describing what to do for both the mother and her baby, when to return for examination either to the dispensary or her private physician, clinic hours, etc. Stress should be put on having her return if she notices the slightest thing wrong and that she will always be welcomed by the Social Service Department. Pamphlets should also be available for cardiac and pediatric cases. These can also be used for excellent publicity purposes.

One word in closing about the discharge of cases not cared for by the hospital, *i. e.*, mental, tuberculosis, venereal disease, chronic, contagious, etc. This particularly applies to hospitals in our larger communities. Give the patient and his relatives and friends a chance. Do not transfer a mental case to an observation ward, where he is deprived of his liberty, without sanction. Possibly the family would prefer to take the patient home. It is the refinement of cruelty to advise relatives that their mother or father, sister or brother, etc., has been transferred two days ago. Have them come to the hospital and make the decision and, if they approve, give them a slip containing the telephone number, visiting hours, route, etc., to the County Hospital. They will think more of you and your administration.

2. STANDARDIZATION OF OPERATING ROOM TECHNIC

BYRON H. GOFF, M.D., NEW YORK
Junior Attending Surgeon, Woman's Hospital

Hospital Standardization received little attention at the Woman's Hospital before March, 1918. At that time the hospital service consisted of five Gynecological Divisions, and one Obstetrical, each one of which was independently conducted by an Attending and Junior Attending Surgeon. Methods employed in the treatment of the patient before, during and after operation were different on each division—variations being sufficient to cause endless confusion and loss of time.

In March, 1918, under the direction of Dr. George Gray Ward, an extensive hospital standardization program which extended to all departments of the hospital was instituted. It is of the standard methods employed in the ante-operative and postoperative preparation of the patient and in the handling of the patient in the operating department that we shall speak.

ANTE-OPERATIVE AND POSTOPERATIVE CARE OF PATIENT

For the past six years there have been in use simple standard methods of preparing all private and ward cases for celiotomy and vaginal operations which are described in a booklet entitled "Standardized Orders for Ward Patients and Recovery Room Patients." Copies of this booklet are given to new members of the hospital, the interne and nursing staff so that they may promptly become informed as to the hospital methods. Not only ante-operative methods but postoperative methods of caring for the patient are described in detail.

STANDARDIZED ORDERS FOR WARD PATIENTS AND RECOVERY ROOM PATIENTS

WOMAN'S HOSPITAL, NEW YORK

STANDING ORDERS FOR THE PREPARATION AND AFTER CARE OF OPERATIVE CASES

The following orders will apply to all patients except emergency cases, complete lacerations of sphincter ani, vesico-vaginal fistulæ and rectal cases, for which special orders will be given by the Attending Surgeon or House Staff.

PREOPERATIVE CARE

Patients will receive a full tub bath on admission except emergency or very sick cases.

A catheterized specimen of urine must be obtained from each patient as soon as possible after admission and sent to the laboratory not later than 4 p. m. If it is not possible to obtain a specimen before this time, the night nurse

will send a catheterized specimen, of at least 2 oz., of the morning urine to the laboratory the following day.

Castor-oil (1 oz.) will be given 48 hours before operation if the case is in the hospital and not seriously ill.

Cases admitted, or ordered to be prepared less than 48 hours before operation, do not get cathartics.

Light meals are to be given on the day preceding operation.

Preparation for operation is to be made on the afternoon of the day preceding the operation, not later than 6 p. m.

All cases will receive both the abdominal and the vaginal preparation unless on special written order to the contrary.

All cases are to remain in bed after preparation for operation.

PREPARATION ON THE DAY PRECEDING OPERATION

1. SHAVE—The entire abdomen and the external genitals are to be shaved commencing at the ensiform and continuing over the pubes and vulva to the coccyx.

2. ONE soap suds enema given with a high rectal tube.

3. Tub-bath, temperature 100 degrees F.

4. Wash the abdomen and external genitals with gauze and tr. green soap and warm water, commencing at the ensiform and continuing down over the vulva.

5. Wash the abdomen first with ether and then alcohol, using sterile gauze.

6. Cover the abdomen with sterile gauze.

7. Give a three (3) quart vaginal douche of 1-5000 potassium permanganate solution, temperature of 110 degrees F.

8. Cover the vulva with a sterile pad and fasten it to a T binder.

PREPARATION ON THE DAY OF OPERATION

Not less than two hours and not more than four hours before sending the patient to the operating room, paint the abdomen with 3½% tr. iodine and cover with fresh sterile gauze; give the patient a two and one-half (2½) quart vaginal douche of 1-5000 potassium permanganate solution, temperature 110 degrees F. and cover vulva with sterile pad fastened to T binder.

Cases to be operated upon in the afternoon are to receive on the morning of the same day:

ONE soap suds enema given with a high rectal tube, at least six (6) hours before the operation.

On the day of operation cases do not receive nourishment or liquids within 3 hours of going to the operating room. Broth, tea, or coffee should be given before this period.

Morphine grs. ½ and atropine grs. 1/150 are to be given per hypo one hour before the patient goes to the operating room.

NOTE—This order may be omitted for cause by direction of the Attending Surgeon.

POSTOPERATIVE CARE

Days are to be counted at the completion of each 24 hours.

Temperature, pulse, and respiration are to be taken every four (4) hours until the temperature remains normal for 48 hours, after which they are to be taken B.I.D.

Temperatures are to be taken by rectum for the first three (3) days and indicated on the chart by an X; after

this time temperatures are to be taken by mouth and recorded in the usual way. Rectal and "Drip" cases to have mouth temperature only.

A specimen of urine must be sent to the laboratory the morning following the operation.

PAIN—hypodermic of morphine gr. $\frac{1}{4}$ P.R.N. for pain and repeat Q.S. P.R.N. for 48 hours.

CATHETERIZATION—Do not catheterize when curetting or cervix operations only have been done, unless absolutely unable to void.

Catheterize every 8 hours or sooner for cause, until the patient can void. In extensive cystocele operations (also Mayo and Watkins interposition operations) catheterize every 6 hours for 3 days, or sooner for cause.

Dip the point of the catheter in 25% argyrol in all cases before introducing it into the urethra.

After micturition the external genitals are to be freely flushed with a warm solution of potassium permanganate solution 1-5000, by *pitcher douche*.

THIRST—Nothing to be given by mouth for 24 hours after operation but sips of *hot* water; then cool faucet water in small amounts if desired. (No ice or ice-water is to be allowed.) After 24 hours, if not nauseated, the patient may have lemon albumen water.

DIET—After 36 hours the patient may have lemon albumen water, weak tea, or coffee with sugar (*no milk*), broth, fermillac or kumyss in small quantities, repeating every 3 hours if desired.

After the bowels move, liquid diet, milk, broths, etc., are to be given every 3 hours until soft and regular diet are ordered by the Attending Surgeon or House Staff.

ABDOMINAL OPERATIONS ALONE OR COMBINED WITH VAGINAL OPERATIONS

BOWELS—The rectal tube may be left *in situ* for gas any time after the operation.

On the morning of the 3rd day (or at the completion of 48 hours after operation, if the patient is uncomfortable from gas pains) the patient is to be given the following enema with a high rectal tube:

Sat. sol. of epsom salts.....	2 oz.
Glycerine.....	2 oz.
Turpentine.....	$\frac{1}{2}$ oz.
Soap suds.....	1 qt.

All urines of postoperative patients are to be measured and recorded for 3 days.

If a satisfactory movement has not been obtained at the end of one hour, give a soap suds enema.

On the morning of the 4th day the patient is to be given 1 oz. of castor oil followed by a soap suds enema 4 hours later if there is no satisfactory fecal return. The bowels are to be moved each day thereafter by enema on order, or cathartic.

PITCHER DOUCHE—The external genitals and anus are to be cleansed by the *pitcher douche* of a warm solution of 1-5000 potassium permanganate after each micturition or defecation. Manual cleaning is to be avoided whenever possible.

VAGINAL OPERATIONS ALONE

BOWELS—On the morning of the 3rd day the patient is to be given a soap suds enema.

On the morning of the 4th day the patient is to be given 1 oz. of castor oil followed by a soap suds enema four (4) hours later if necessary.

PITCHER DOUCHE—The external genitals and anus are to be cleansed by the *pitcher douche* of a warm solution of 1-5000 potassium permanganate after each micturition or defecation. Manual cleansing is to be avoided whenever possible.

DOUCHES—After the 7th day a vaginal douche of 1-5000 potassium permanganate solution, temperature 110 degrees F. is to be given daily with a soft rubber catheter.

COMBINED ABDOMINAL AND VAGINAL OPERATION

After the 7th day a vaginal douche of 1-5000 potassium permanganate solution, temperature 110 degrees F. is to be given daily with a soft rubber catheter.

DRAINAGE

All drains with their location and the date they are to be removed must be charted by the first assistant before the patient leaves the operating room. The removal of the drains will be by special order of the Attending Surgeon or House Staff and must be crossed off and signed by the doctor with the date of removal on a red bordered label pasted on outside cover of history. They must be recorded and checked off in a similar manner on the wound sheet.

RADIUM

The number of radium tubes or needles and the number of pieces of gauze must be charted in a similar manner on both label and wound sheet.

COMPLICATIONS

All cases developing complications will receive special orders from the Attending Surgeon or House Staff.

OUT OF BED

All cases will be allowed out of bed only on special order from the Attending Surgeon or House Staff.

THE FIRST DAY OUT OF BED the patients are allowed to sit up for one hour, but not to walk.

THE SECOND DAY OUT OF BED the patients are allowed to sit up one hour in the morning and one hour in the afternoon.

Thereafter the length of time out of bed is to be gradually increased, but no patient is to remain up longer than four hours in the morning and four hours in the afternoon until ready for discharge.

Patients must not be allowed to walk until they have been out of bed for two days, or on order.

STANDING ORDERS FOR THE RECOVERY WARD

POSTOPERATIVE CARE

The following orders will apply to all patients except emergency cases, complete lacerations of the sphincter ani, vesico-vaginal fistulae and rectal cases, for which special orders will be given by the Attending Surgeon or House Staff.

BEDS—The beds in the recovery room are to be prepared for the reception of patients from the operating room according to the Woman's Hospital rule.

The bed must be properly warmed for the reception of the patient by hot water bottles, but all hot water bottles must be removed when the patient is placed in the bed, unless ordered to be retained by a written order from the Attending Surgeon or House Staff.

When cases are in shock or collapse heat is to be maintained by hot blankets, which are to be renewed as needed by blankets taken from the blanket warmer in the small operating room, or the electric blanket may be used.

SHOCK BED

On order patients will be placed in the shock bed, which should be constructed as follows:

1. Ordinary hospital bed elevated at the foot, with shock blocks, to the height of 12 inches.

2. Patient covered with ordinary bed clothing plus bed blankets arranged as follows:

(a) Blankets are double blankets, three in number. If single blankets are used, then four blankets are necessary.

3. Blanket No. 1 is placed up to the patient's chin, covering chest and neck and upper abdomen. Blanket No. 2 is next applied, covering legs and feet and placed so that it hangs over the foot of the bed clear to the floor. All blankets should reach to the floor in order to cover the space under the bed on all sides. Blanket No. 3 is then placed on overlapping blankets 1 and 2.

(a) All blankets are placed the long way transverse to the length of the bed. If single blankets are used then the fourth blanket is placed long end parallel to the bed and extending down over the foot to the floor.

4. When properly arranged the space underneath the bed is entirely covered in by blankets clear to the floor, except the head of the bed, making a closed chamber.

5. The resistance coil lamp is best placed on the floor at the center of the bed equidistant from the blankets.

6. It is necessary for the nurse to watch the patient carefully and remove the lamp as soon as the patient's temperature has reached normal or slightly above.

Hot water bottles are to be filled from a pitcher and the temperature of the water must not exceed 120 degrees F.

Hot water bottles are never to be applied to the patient except on a written order from the Attending Surgeon or House Staff, and in every case they must be separated from the patient by a blanket.

As soon as the patient is placed in bed all wet clothing is to be removed.

The abdominal binder is to be adjusted and securely pinned.

All pins are to be removed from the sleeves.

A DRAW SHEET is to be placed as a restraining sheet across the abdomen but not so as to cause pressure or restrict breathing.

THE HEAD is to be turned on one side, with a towel and basin under the chin.

THE PULSE and respiration are to be taken every 15 minutes until the patient is conscious, or as long as she is in a condition of danger from shock or collapse, after which they are to be taken every hour until patient is removed from recovery room.

HEMORRHAGE—All patients are to be watched for hemorrhage from the incision and from the vagina, an inspection being made every half hour.

TEMPERATURE—All temperatures must be taken every 4 hours by rectum and indicated on the chart by an X (except in cases of complete laceration of the perineum and rectal and drip cases when mouth temperature will be taken).

PAIN—A hypodermic of morphine gr. $\frac{1}{4}$ P.R.N. for pain and repeat Q.S. P.R.N.

CATHETERIZATION—Do not catheterize when Curetting and cervix operations only have been done, unless compulsory.

Catheterize every 8 hours or sooner for cause, unless the patient can void.

In extensive cystoceles operations (also in Mayo and Watkins interposition operations) catheterize every 6 hours or sooner for cause.

Dip the point of the catheter in 25% argyrol in all cases before introducing it into the urethra. After micturition or defecation, the external genitals are to be freely flushed with a warm solution of potassium permanganate 1-5000 by *pitcher douche*.

Manual cleansing is to be avoided whenever possible.

In vaginal operations a fresh sterile vulva pad is to be applied.

THIRST—Nothing is to be given by mouth for 12 hours after operation but sips of *hot* water (NO ICE OR ICE WATER IS TO BE ALLOWED).

URINE—A specimen of urine must be sent to the laboratory the morning following the operation.

COMPLICATIONS—Any unusual condition of the patient is to be reported at once to the House Surgeon in charge of the case and to the Directress of Nurses.

All cases developing complications will receive special orders from the Attending Surgeon or House Staff.

CARREL-DAKIN EQUIPMENT

The following are furnished each ward:

- 1—Carrel-Dakin solution (standardized).
- 2—Graduate irrigation bottle having seven mm. opening for the delivery of the fluid.
- 3—Connecting rubber tubing.
- 4—Compression pinch cock.
- 5—Glass tubes—1, 2 and 3 way to distribute solution to all parts of the wound.
- 6—Rubber tubing to be laid in the wound (internal diameter 3 mm.).

Two kinds:

- a—With opening on the side near the end but closed at the end.
- b—with fine perforations along the sides for 5 cm. of its length, also closed at the end.

Some tubes of type (b) are covered with turkish towel-ing for holding the solution.

- 7—Sterile vaseline and zinc oxide ointment of equal parts.
- 8—Benzine and ether for cleansing the skin.
- 9—Soap and water (ivory soap).
- 10—Sterile cotton balls.
- 11—Adhesive plaster.
- 12—Sterile thread.
- 13—Regular dressing set of sterile instruments.
- 14—Slides, alcohol lamp and wire loop for smears.
- 15—Surgical dressings.
- 16—Large sterile absorbent pads to hold on the outside of the dressing.
- 17—Bacterial chart on the surgical record sheet.
- 18—Glass syringe.

TECHNIC OF APPLICATION

- 1—The infected area, having been iodinated, is laid wide open.
- 2—Septic field thoroughly flushed out with sterile saline solution.
- 3—Perforated rubber tubes—1, 2 or 3 way to reach all sinuses—are passed to the bottom of the abscess cavity and anchored by means of sterile thread and adhesive plaster.
- 4—Apply sterile vaseline and zinc oxide ointment on the skin about the wound to protect it from the irritation of the Carrel-Dakin solution.
- 5—Test for the amount of Carrel-Dakin solution necessary to completely flush the wound.
- 6—Apply sterile dressings and large pad.
- 7—Instruct the nurse to release the pinch cock regularly every 2 hours, allowing to run through only the amount of the solution found necessary to keep the dressings slightly moist, but not dripping.
- 8—Repeat above treatment in the daily dressing.
- 9—A smear should be taken daily for a bacterial count until bacterial growths are negative or practically so.

Then:

Apply firm bolsters to either side of the wound.

Draw edges together and hold with broad bands of adhesive plaster. These are to be left in place for a week or more.

Change outer dressings daily, pouring a few drops of 4% solution of Di-chloramine-T in chlorozone into the open mouth of the sinus to keep the discharges sterile.

METHODS EMPLOYED IN THE OPERATING DEPARTMENT

During the past three years a booklet somewhat similar to "Standardized Orders for Ward Patients and Recovery Room Patients" describing the methods employed in the operating department has been published by the Woman's Hospital—entitled "Rules and Regulations for the Operating Department."

RULES AND REGULATIONS FOR THE OPERATING DEPARTMENT

WOMAN'S HOSPITAL, NEW YORK

ORGANIZATION OF THE OPERATING DEPARTMENT

1. SUPERVISOR

The Supervisor shall be in entire charge of the four operating rooms, the sterilizing rooms, the anæsthetizing rooms, the dressing rooms, supply rooms, and of all things pertaining to the Operating Department.

2. ASSISTANT SUPERVISOR

The Assistant Supervisor shall be next in authority to the supervisor and shall act as her assistant, and in her absence shall assume all her duties.

3. STERILIZING ROOM NURSE

The sterilizing room nurse shall have the care of the sterilizing rooms under the direction of the Supervisor.

4. OPERATING ROOM NURSES

An operating room nurse shall be in charge of each of the operating rooms under the direction of the Supervisor.

5. ANÆSTHETISTS

There shall be a graduate physician in charge of anæsthesia and there shall be four properly qualified nurse anæsthetists who shall administer anæsthetics under his direction.

6. PUPIL NURSES

There shall be a sufficient number of pupil nurses assigned to duty in the operating and sterilizing rooms. They shall receive instruction and assist in this department under the direction of the Supervisor.

7. ORDERLIES

There shall be two or more orderlies who shall be under the direction of the Supervisor.

OPERATING ROOMS

The Operating Rooms shall be named as follows:

Sims Operating Theatre
Thomas Operating Room
Emmet Operating Room
Peaslee Operating Room

The entire plant shall be inspected in detail each month by a member of the Attending Staff, to whom the Chief Surgeon may assign this duty. He shall submit a report

giving the condition of the sterilizers, tables, instruments, infusion apparatus, etc., and where necessary give suggestions for improvement.

No one shall be allowed near the sterile fields without sterile gowns and masks.

All nurses in the sterilizing and operating rooms must report at once any personal infections or any signs of any infections, such as paronychia, acute coryza or throat infection to the Supervisor of the operating rooms. Any such person *must not* be allowed to work in these rooms until the infection has subsided.

The entire operating and adjacent rooms must be thoroughly cleaned once a week. Sterilizers and filters must be thoroughly cleaned every two weeks.

Tables and basin standards must be set up fresh for each operation in combined abdominal and vaginal operations.

Two separate tables must be set up when there is a vaginal and abdominal operation upon the same case, one carrying the vaginal and the other the abdominal instruments.

The lower shelves must not be used to carry sterile goods.

The vaginal douche and rinsing basin for vaginal instruments may, if unused and kept covered, be carried over for another operation.

Immediately upon the completion of the operation, the operating surgeon shall dictate to a stenographer in the record department, by the dictograph placed in such operating room, a description of the findings and technic of the operation.

CARE OF SPECIMENS

All specimens removed at operation must be carefully labelled by the operating room nurse, according to instructions from the suture nurse, and such specimen then sent at once to the pathological laboratory by the suture nurse.

TECHNIC OF HAND PREPARATION

The total time consumed in scrubbing the hands *shall not be less than ten minutes* as indicated by the steril glass.

METHOD 1

1. The skin of the hands and forearms is to be softened by a thorough lathering with tr. green soap or 10% creolin soft soap under running warm water for one minute.

2. Scrub hands and forearms with *brush* and soap for two minutes, cleaning especially between the fingers and brushing the hands thoroughly. Sterile gauze may be used in addition to the brush.

3. With sterile orange stick clean under the nails and cuticle and thoroughly rinse in running water during the cleaning for one minute.

4. Again scrub hands and nails thoroughly with brush for three minutes, rinsing well and applying fresh soap frequently.

5. Thoroughly rinse off all soap and water and be sure that no soap clings to arms or elbows.

6. Use alcohol spray to dehydrate and sterilize hands and forearms.

7. Deposition of iodine spray on the hands and forearms, and then wash off excess with alcohol spray.

8. Dry hands thoroughly with a sterile towel.

9. The sponge nurse will adjust a sterile gown, dust the hands with sterile powder and hold the sterile rubber gloves. The Surgeon will place his hands in the gloves, *not to be removed by touch or until time*

10. The *sterile hands* are to be kept covered with a sterile towel while waiting.

METHOD 2

(Alternative)

Those who do not wish to use iodine, may, after step No. 6 of the preparation, soak the hands in a 1-5000 solution of bichloride of mercury for one minute, and then rinse off with sterile water.

RE-SCRUB

The re-scrubbing of the hands for any subsequent operation shall be for not less than two minutes, followed by the hand preparation beginning with step No. 5.

All assistants and nurses taking part in an operation, before beginning a new operation, or on the completion of the vaginal part of a combined operation, must remove gloves and gowns and re-scrub in accordance with the established technic.

The surgeon shall wear a suit and a mask covering nose, mouth, and all the hair of the head possible.

THE PATIENT

A nurse shall take charge of the patient upon arrival in the anesthetizing room.

The patient shall be prepared by the second assistant at the operation, he being responsible for the position on the table.

TECHNIC OF VAGINAL PREPARATION

1. The preparation must not be started until the patient is under the influence of anæsthetic.
2. Scrub vulva, perineum, and thighs with a sterile gauze sponge, using tr. green soap and sterile water, keeping away from the anus until the last wipe of the sponge, which is to be directed downward from the labia majora to the anus and the sponge immediately discarded.
3. Clean thoroughly the external genitalia with sterile gauze, using tr. green soap and sterile water, getting away all secretion from about the clitoris and the urethral orifice.
4. Wash off all tr. green soap thoroughly with a *pitcher* *douche* of sterile water.
5. Catheterize patient, first dipping the tip of the catheter into 25% argyrol.
6. Wash out the vagina thoroughly with tr. green soap and sterile water, using a gauze sponge on forceps and the index finger as a perineal retractor.
7. Give vaginal douche of sterile water.
8. Dry the vagina and external genitalia with a gauze sponge.
9. Apply ether to the external genitalia with a gauze sponge.
10. After the patient is fixed in position, paint the vaginal walls and cervix with 3½% tr. iodine, using a fresh gauze sponge on forceps, retracting the perineum, and being careful not to let the iodine run between the gluteal folds and to see that the iodine has dried before putting on the perineal sheet.
11. Paint the external genitalia with 3½% tr. iodine solution well beyond the field of operation, using a gauze sponge or forceps.

In cases where the hymen is intact, no vaginal examination or vaginal preparation is to be made (omitting steps 6, 7, 8 and 11) unless expressly ordered by the Attending Surgeon.

12. Move patient to the operating room.

NOTE:—Iodine must not be of long standing, as it evaporates and the iodine becomes stronger. The solution should preferably be made up fresh each day and must be kept covered.

The use of iodine in the vagina and vulva may be omitted on the order of the Operating Surgeon.

DUTIES OF THE PERSONNEL

THE SUPERVISOR OF THE OPERATING ROOM

1. She shall be in charge of the entire operating and sterilizing plant.
2. She shall be responsible for the proper carrying out of the technic as ordered by the Chief Surgeon.
3. She shall be responsible for the instruction, discipline, and rotation of the nurses; also discipline, assignment, apparatus, etc., of the anæsthetist nurses. (See Duties of Nurse Anæsthetists.)
4. She shall be responsible for a record of the operations, reporting same to the Chief Surgeon.
5. She shall have charge of the sharpening and repairing of instruments.
6. She shall have charge of the orderlies and maids, directing their work.
7. She shall make rounds with the surgeon who is appointed to inspect the operating rooms in detail.
8. She shall be responsible for the hospital stock of surgical instruments.
9. She shall have charge and care of the electro-cautery.

ASSISTANT SUPERVISOR

She shall be next in authority to the Supervisor and shall act as her assistant, and in her absence shall assume all her duties.

OPERATING ROOM NURSES

1. There shall be a permanent nurse in charge of each operating room and she shall be responsible to the Supervisor.
2. She shall aid in the instruction of the sponge and circulating nurses.
3. She shall select the instruments, suture materials, etc., for the operations.
4. She shall have charge of the draping of the patient.
5. She shall prepare normal saline.
6. She shall count and put away instruments daily.
7. On Wednesday she shall oil and exchange instruments; then on Saturday examine and exchange instruments and needles, and also change the solutions on catgut.
8. She shall be responsible for cigarette drains, rubber tubing, iodoform gauze, aspirator, infusion and hypodermic apparatus, hypo tray, and infusion thermometer.
9. She shall have charge of the specimens obtained at the operations and shall instruct the circulating nurse as to what they shall be labeled, and shall be responsible for their transfer to the laboratory.

THE SPONGE NURSES (PUPILS)

1. They shall be responsible to the Operating Room Nurse.
2. They shall arrange tables, placing them in the proper positions.
3. They shall get sufficient sterile supplies in the operating rooms for A. M. and P. M. work.
4. They shall scrub one hour before the case is scheduled.
5. They shall set up the vaginal instrument table, douche can and basin, abdominal instrument table and basin, glove table, sponge table, basin standards, infusion stand, brush basin, etc., using sterile gloved hands. They shall place all instruments on the table in a definite arrangement.
6. They shall remove the sterile supplies from the drums with sterile forceps after the beginning of an operation.
7. They shall put on the doctors' sterile gowns and gloves.

8. They shall prepare the abdominal sponges and abdominal pads, keep them in hot normal saline solution, and supply them as required.

9. They shall count all sponges before and at the end of each operation, and report them as correct or incorrect.

10. They shall assist in cleaning instruments, gloves, etc.

THE CIRCULATING NURSE (PUPILS)

1. They shall take charge of the patient upon arrival in the anæsthesia room.

2. They shall dust rooms, fill solution bottles, and assist in getting sterile supplies.

3. They shall prepare soap, gloves, syringes, douches, rinsing water, pail for Kelly pad, pail for gloves, etc., necessary for the vaginal preparation of the patient.

4. They shall place pails for sponges, pail for vaginal work, stools, and foot stools as needed.

5. They shall keep instrument sterilizers filled with water and boiling, and during an operation wash, boil, and time instruments as directed by the suture nurse.

6. They shall tie and untie gowns.

7. They shall fill out pathological slips: Date, Name, Age, Record No., Ward, Surgeon.

8. They shall keep the doctors' faces free from perspiration.

9. They shall wait on the sponge and suture nurses, providing sterile hot and cold water, extra dressings, packings, etc., and replenish sterile supplies as required.

10. They shall count all soiled sponges and report their number to the sponge nurse; see that the sponge bag is emptied between laparotomies; that sponge pails are emptied between vaginal and abdominal operations, and that all sponges are removed from the floor.

11. They shall have charge of rectal infusions, hot water bottles, plaster, the stretcher, blanket warmer, etc.

12. They shall assist in cleaning instruments.

THE STERILIZING ROOM NURSE

She shall be a permanent nurse and be responsible to the Supervisor of the Operating Rooms.

She shall have charge of making sponges, pads, packings, etc., and the preparation of gloves, in accordance with the directions of the Chief Surgeon.

She shall instruct the pupil nurses in the preparing, packing, and sterilizing of operating materials.

She shall see that sterilized supplies of all kinds are on hand to cover any emergency.

She shall send all linen for repair to the sewing room every Friday before 10 A. M.

CULTURES

The Pathologist shall make cultures at weekly intervals and report the results to the Chief Surgeon at the Staff Conferences, of:

1. Saline infusion.
2. Glucose solution.
3. Gum glucose solution.
4. A glove from a folder.
5. A small sponge.
6. Glove powder.
7. Packing gauze (plain).
8. Iodoform gauze.
9. The water from each hot and cold water sterilizer, in each operating unit.

10. (ON REQUEST) The end of a sterile applicator which has been passed beneath the nail of the right index finger of each surgeon, first assistant, suture nurse and sponge nurse, when gloves are removed at the end of the operation.

11. Catgut suture.

12. Silk suture.

ANÆSTHESIA

1. The department is under the direction of the hospital anæsthetist, who shall be responsible for the general administration of anæsthesia, the assignment of the work, the arrangement of hours, etc.

2. The nurse anæsthetists are to be considered as part of the nursing department of the hospital, and are therefore directly under the control of the directress of nurses and her assistants.

3. The nurse anæsthetists while on the operating floor shall be under the immediate supervision of the operating room supervisor. She is at all times in control of the anaesthetizing and operating rooms.

4. Whenever a nurse anæsthetist is unavoidably absent through sickness or otherwise, it will be expected that the other nurse anæsthetists will take over her work as is done in other departments. Should conditions arise through an excessive number of operations occurring at the same time, which make this impracticable, the resident gynecologist will designate an intern to substitute for the emergency.

5. The senior nurse anæsthetist on duty will report at once to the hospital anæsthetist and the resident gynecologist whenever one of the anæsthetists cannot go on duty, in order that adjustments of the work may be made.

6. The anæsthetists shall assume the responsibility and care of the anæsthesia apparatus and supply of anæsthetics, report the condition of same to the Supervisor of the Operating Room.

7. The anæsthetists shall keep a complete record of each anæsthetic given, and the condition of the patient upon a special chart, completing each column as fully as possible. This chart shall become a part of the patient's record. They shall also record the character of the operations for the information of the Department of Records.

ORDERLIES

The orderlies shall be responsible to the Supervisor of the Operating Room and shall do the work assigned to them.

STERILIZATION

1. INSTRUMENTS

All instruments must be boiled for 10 minutes in a 1% solution of bicarbonate of soda.

2. KNIVES

Knife blades should be immersed in 95% carbolic acid for 10 minutes and then washed in alcohol.

3. SYRINGES

Syringes should be constantly immersed in 65% alcohol or at least 15 minutes in an emergency.

4. BASINS, TRAYS, BRUSHES

Must be covered with water and boiled 30 minutes.

5. GLOVES

Shall first be thoroughly washed, then boiled for 5 minutes in plain water, dried and powdered, cuffs turned back, placed in a labeled folder and sterilized in autoclave for 20 minutes at 15 lbs. pressure.

6. RUBBER PADS

Same as gloves except omit powdering and turning back cuffs.

7. TALCUM POWDER

Sterilize in autoclave 30 minutes at 15 lbs. pressure.

8. RUBBER DAM, RUBBER TUBES

Sterilize by boiling 20 minutes and then keep in dry, sterile covered container.

9. BAUER AND BLACK CELLOID IN SILK, SILKWORM GUT, LINEN, SILK

Sterilize by boiling 20 minutes; then sterilize in autoclave for 30 minutes at 15 lbs. pressure.

10. SUTURE TUBES

Tubes containing sterile sutures are kept immersed in a 3% solution of carbolic acid.

11. PESSARIES

Pessaries are kept immersed in a 3% solution of carbolic acid.

12. A Dyack tube shall be used with each sterilization.

13. Gowns, masks, towels, packing, gauze, rolls and sponges, and drapings, shall be sterilized in autoclave for 30 minutes at 15 lbs. pressure if in small drum, and 60 minutes at 15 lbs. if in large drum.

14. Time of sterilization to commence after all air is exhausted from the chamber.

SOLUTIONS

SALINE, GLUCOSE AND GUM ACACIA

The water to prepare infusion solutions of salt, glucose and gum acacia should be distilled at least twice a week into a clean Florence flask.

Saline solution shall be filtered once through sterile cotton wall and once through two thicknesses of filter

paper. This can be done at one time, if the wool is properly placed upon the paper.

Use sterile distilled water and super-saturated tubes of sol. chloride.

The solutions of gum acacia and gum glucose are prepared in sealed ampuls by E. R. Squibb & Sons, New York, and Evans Sons Lescher & Webb, Ltd., Liverpool, ready for use, and are kept in laboratory ice-box.

EMERGENCY OUTFITS

1. Tracheotomy set.
2. Pulmotor.
3. Local anæsthesia set.
4. Infusion set.

In the operating rooms of the Woman's Hospital there are standard sets of operating room equipment arranged in exactly the same manner in each room. The same may be said of the sets of instruments which are always to be found in definite order on supply tables and operating trays. With such a scheme in operation an operating team can move from one room to another without confusion.

The advantages of simple standard methods are obvious. It is important, however, to call attention to the fact that in addition to the saving of time and the avoidance of confusion each member of the house and nursing staff leaves the hospital thoroughly familiar with at least one reliable method of carrying out each step in the care of a gynecological patient.

3. SELECTION AND ORGANIZATION OF THE MEDICAL STAFF OF A CLOSED HOSPITAL

LOUIS C. TRIMBLE, NEW YORK

Superintendent, New York Post Graduate Medical School and Hospital

An almost endless number of existing mistakes having taught us that it is most unwise to erect a hospital without first having an exhaustive study of all conditions bearing thereon, such as the percentage of private rooms desired, prevalence of certain classes of diseases, frequency of accident cases and so on, is it not therefore self-evident that it would be most unwise to neglect an equally careful survey of conditions before selecting a staff.

Invariably hospital organizations, if they are to be successful, must include three distinct groups: the board of trustees, medical staff and executive branch. It is equally true that the medical staff will always hold the most conspicuous place in the community, will either make or ruin the institution and will without question be the most difficult to deal with.

For purposes of argument, let us assume that the hospital which we are discussing is of 150

bed capacity, general in its scope and located in a growing city of moderate size, and with this fairly clear picture of our requirements we may safely proceed with a plan of organization.

In the original conception would be required the following services: Surgical, medical, obstetrical, pediatric, head specialties, laboratories and X-ray.

Annually in November the board of trustees or a duly accredited committee thereof shall appoint a chief of each of the aforementioned services, who would take office on the first of January following, holding his position for the calendar year or at the pleasure of the board, and if there should be a vacancy, such vacancy would be filled by the board in accordance with such rules as may have been adopted.

The chiefs of service so appointed shall constitute the medical council of the hospital, with full responsibility and authority over the pro-

professional work performed in the institution, of whatever nature—and when we say “responsibility and authority,” this is without any reserve or equivocation, for unless absolute responsibility is placed in the hands of a small selected group and that group given equally full authority, there can be no safeguard which will prevent unethical procedure, if not worse.

Immediately after receiving notice of his appointment each chief of service shall prepare a list of such associates and assistants as he may deem advisable and necessary for the proper care of the patients coming under his jurisdiction, and to do such other medical work as may be found necessary.

This list shall be presented to the full council at a meeting to be held not later than the first of December, and at this meeting the professional and other qualifications of the various nominees are to be discussed at length, and unless a majority of the council agrees to the fitness of any one so nominated, his name shall be withdrawn from the list.

When the council has completed and approved this list of recommendations, it shall be submitted to the board of trustees and, if approved by them, those who are appointed shall occupy their respective positions during the calendar year following, or until their successors have been appointed; but should the board of trustees decline to approve any of these nominees, he shall not be appointed and the council will be requested to present another name.

In order that there be no injustice done to any individual, the right of removal after appointment shall rest only with the board of trustees, but the head of any service or a majority of the council may suspend any member of the staff pending a hearing before the trustees, and should any member be so suspended, a written report of the charges must be presented to the proper officer of the trustees within five days.

Should a vacancy in the staff occur at any time, it shall be filled in accordance with the foregoing plan, namely, nomination by the chief of service, approval by the majority of the council and appointment by the board of trustees.

All properly appointed members of the medical staff shall constitute the medical board, and this board shall meet not less than once each month for the discussion of professional questions regarding the care of patients and for the presentation of papers and articles on medical subjects; the medical board may also from time to time make recommendations regarding hospital matters, and these recommendations, if approved by a majority of the medical council, will be forwarded to the trustees for their consideration and action.

A staff so organized gives a great degree of flexibility, permitting organization of such other services and sections as may be required from time to time, and if the members are wisely chosen there never should be any necessity for going beyond the staff to find men who are worthy of promotion.

4. THE AUTOPSY AND HOSPITAL EFFICIENCY

JOSEPH C. DOANE, M.D., PHILADELPHIA

Medical Director and Superintendent, Philadelphia General Hospital

It is a great pleasure to come over here to New York to talk on a subject in which I have been very much interested for a number of years.

I think the increase in the postmortem percentages of hospitals the country over is very encouraging. This is probably due in large part to the splendid stimulus which the American College of Surgeons has lent to this subject.

Adequate discussion of the question of hospital efficiency and its relation to the postmortem percentage, or the reverse—the postmortem percentage in relation to hospital efficiency—requires a definition, briefly, of what we really mean by “hospital efficiency.”

An efficient hospital, to my mind, is one which returns to health and to usefulness in the shortest

possible time, with the least expense to the contributors of the hospital, those men and those women who entrust themselves as patients to the hospital; and, secondly, it is a hospital that recognizes that it has an educational duty to its internes, its nurses, its community, and the world of medicine. A hospital does not live wholly in its own little community. Thirdly, an efficient hospital is one that utilizes every available thing to enlarge the scope of this teaching phase, because it knows that its patients, and the patients of the seven thousand other hospitals in the United States, are going to be more or less directly benefited by this educational development.

I submit to you, then, that a hospital that does not recognize and develop these three principles

is not efficient. I submit to you that a hospital that does not recognize the fact that the properly conducted postmortem examination is a salient factor in this educational phase is by the same measure not efficient.

I do not think it is necessary, nor would it be becoming for me to enter into any discussion as to the advisability or necessity of securing postmortem examinations on a large percentage of patients dying in the hospital; but I do want to say a few words, briefly and to the point, on some practical phases of this subject.

I submit as my first proposition that the scientific zeal and the professional standards of any hospital can be largely judged by its low mortality rate, in consideration of the type of patients which it treats, the length of stay in the hospital of the individual patient, and its postmortem percentage.

Almost a hundred years ago there were two medical men working in Philadelphia, who had recently returned from France. There they had observed some interesting phases of typhus, and of another disease which appeared in some respects similar to typhus, but was at the same time not as grave. At this time an epidemic of typhus fever was raging in Philadelphia—if my New York friends will allow me to say that anything ever rages in that city. These two men came back to Philadelphia imbued with the idea that the thing that was called typhus mitior, or mild typhus, was a distinct disease entity. They proceeded to set to work, proving pathologically that this was true. These physicians, although clinicians, personally examined postmortem almost every case dying in their wards.

They proved that typhus mitior was not a type of typhus, but a distinct disease in itself. This we have known since as the once common, but, fortunately, disappearing typhoid fever. I refer to Dr. Pennock and Dr. Garhardt, then on the staff of the Philadelphia General Hospital.

When a physician, be he clinician, pathologist, or other hospital worker, adds to our knowledge of medicine he not only becomes a benefactor to the human race, but he also reflects favorably on himself and on his hospital. These two men, whom I have mentioned, illustrate the fact that not only were they zealous in learning the nature of the illness which they were treating in the ward, but also that they were anxious and willing to labor in the postmortem room, to learn why their patients died, and thus be able to treat others on their medical service more efficaciously.

I receive an inspiration every time I glance at a page of a postmortem examination, carefully

and painstakingly recorded and signed by Dr. William Osler when he was working at the Philadelphia General Hospital. It is indeed a stimulus to every generation of medicine to note the care with which he set down his autopsy observations; to see the zeal with which that great mind compared the things which he saw up in the ward and the things which he found in the postmortem room. I tell you today, friends, it is too long a distance from the ward to the postmortem room in our hospitals; and too frequently do we find that what should be the very best autopsies and the very best clinico-pathological conferences are those in which the clinician is conspicuous by his absence. The pathologist is there because he usually receives pay from the hospital and is not as busy a man; but I think that it is a deplorable thing that the medical millenium is so postponed by this lack of sincere attempt to make clinical and pathological diagnoses coincide. When that time arrives, we will have reached the ultimate in pathological and clinical diagnosis.

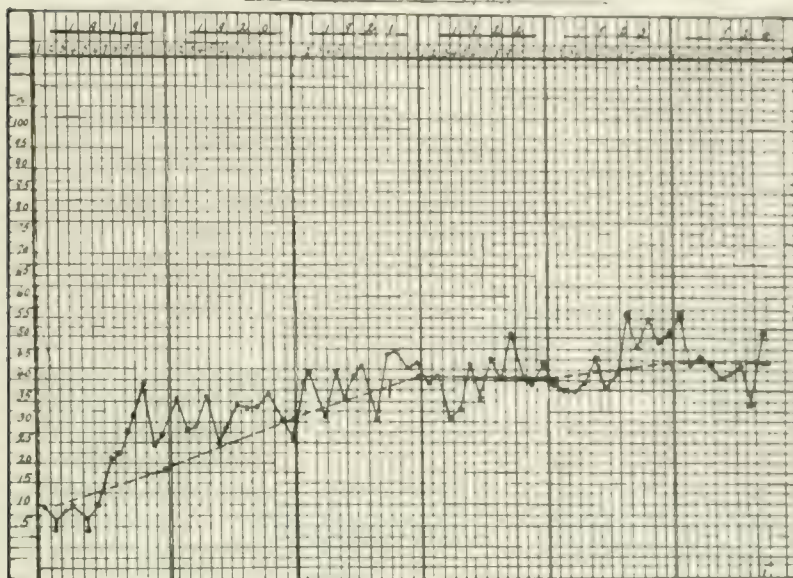
I submit, secondly, that the blame for a low postmortem percentage can be placed directly at the door of the hospital executive, lay or medical, and at the door of the medical staff. Too often do we say that we do not have autopsies because the internes do not get them. That is more or less of a camouflage, is it not? The interne is the man who actually asks for the autopsy, but he is only the instrument of the medical or lay executive.

I have just one slide that I wanted to present. This happens to be a slide showing a postmortem percentage curve, but I want you to look upon this slide as a barometer of medical interest in postmortem examinations.

I show it with somewhat of a mixed feeling of shame and pride. This curve covers six years of effort to secure autopsies in a large city hospital. You will see we began over here with a percentage around 10 per cent. Shameful! I am ashamed that that thing was allowed to go along as far as it did. We awoke to the fact that a hospital that had a ten per cent postmortem record was not doing its duty. We started a campaign of education. We talked and urged the value of these postmortem examinations. We tried to get everybody interested—the internes and the office staff—anybody who came in contact with patients and their relatives—and you see what happened.

In the first year we jumped up as high as 40 per cent. Notice that here is a sort of mountainous curve, which can be explained in this way—and I will use just this one curve to illustrate my point, because the time is short. When we get busy with other things and forget that we have a

Philadelphia General Hospital - Post-mortem Percentages



postmortem percentage to maintain, and let the business of getting autopsies go along its own way, our percentage soon drops. In fact, I think if we forgot all about postmortems, we would soon be back to the ten per cent from which we started, but this is what happened at this point: Somebody called attention to the fact that our post-mortem percentage was falling. We began to hold conferences, and we began to send letters to visiting chiefs, notifying them that their percentages were low. We sent letters of congratulation to internes who had good postmortem percentages, and what happened? We jumped nearly 20 per cent.

So I display this slide without any further comment. The irregularities in a way resemble a fever temperature of interest, and that interest is manifested by the staff, by the medical executive, by the people about the hospital (because you do not have to be a doctor to get a postmortem permission, or to understand the value of post-mortems).

I have just one or two further statements to make. Can a hospital be efficient whose superintendent has but a casual interest in teaching, which is manifested by an equally casual interest in comparing his hospital clinical and pathological findings in the large percentage of patients who die therein? Can a hospital be efficient whose staff has but a casual interest in getting post-mortems—that is, in teaching?

I have a secretary who is the mildest person that you would ever want to see, but she is the best postmortem-getter that I know of, because she realizes, first, what that curve means, and she has a pride in maintaining a high percentage; and, secondly, she knows what postmortems mean to the hospital, and to medicine.

Then I have one more point. There are no insurmountable difficulties to securing autopsies; (I refer to religion, race, geography, and the attitude of undertakers). When we say we cannot get autopsies, we are confessing both a lack of interest and a lack of organizing ability. Hospitals use these arguments to cover their own deficiencies. Undertakers will get you autopsies, if you handle them right. There is no religious argument against postmortems of which I know. Locality should not prevent your getting autopsies. I have oftentimes heard it said, "We are a small hospital in a small community, and therefore, we are unable to get postmortems." You are confessing your own inability to organize, or else your own disinterest in teaching, if you do that.

One other thing: frequently our postmortem technic and the morale of our postmortem rooms are so uncertain and unsavory that the undertakers who come there will argue against autopsies because they know that the technic is unscientific, and the appearance of our room is bad. Postmortem rooms should not always be

in the cellar, and poorly ventilated; hats should not always be on the heads of the operators; and cigars for the pathologist and the observers are not necessary to good postmortem technic. In other words, the technic of a postmortem room will determine to a great extent how people look upon this work which you are doing. If the examination after death of the bodies of patients dying in our hospitals is done with scientific care and accuracy, and if the morale of the postmortem room approaches that of our operating room, the question of securing permissions for these procedures will be greatly enhanced.

My last submission is this: That any hospital that organizes properly, that works the campaign of getting autopsies by an educational program, and in other practical ways, should have a 50 per cent postmortem record.

Lastly, the height of your postmortem percentage rate will not save the scientific soul of your hospital. You can make a thousand postmortem examinations annually, and still be unscientific. The whole crux of the situation is this: To what use are you putting the information which you gain from doing autopsies in your hospital?

SISTER MARIE OF THE IMMACULATE CONCEP-

TION: I would like to ask the speaker if this percentage of postmortems is from free or public-ward patients, and if there is more difficulty in obtaining posts from pay patients than from ward patients? Also, what is the attitude of the attending physician about his pay patient and his public-ward patients?

DR. JOSEPH C. DOANE: This percentage which I have shown you, of course, is from a large free hospital. The Philadelphia General Hospital has no private rooms. I am, however, not convinced that that should make any real difference. I think that the principles which apply are principles of salesmanship, and the person who secures an autopsy permission from one type of person adopts the same arguments that you would in selling something; in fact, the way to get post-mortems is to give salesmanship talks.

I presume that it might be difficult in certain types of pay patients (that is, private-room patients) to secure autopsies, but I know of no more difficult type of person to get to do something that he does not wish to do than the person who comes to a free hospital, and who expects much more than the person who is paying well for his care.

5. FOLLOW-UP AND STUDY OF END-RESULTS

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The last remark of the Chairman serves as an introduction to my paper—"You might be found out." The follow-up system is one devised so that patients may return to the operator himself in order that he may find out his own mistakes, instead of being found out by others without addition to his knowledge and with injury to his reputation.

The title on the program gives two headings—"The Follow-up System" and "End-Results." To me, the purposes are distinct. The follow-up system, used for whatever purpose, implies that some one in some way or other follows an individual, gets him back to the hospital, goes to him to conduct an examination, or obtains information by correspondence. Whether he is trying to sell something, get a subscription, or make a surgical follow-up examination, the spirit of the follow-up system is the same.

I will attempt, therefore, to describe, first, the system established at the Presbyterian Hospital in 1913. Under stimulus of the attitude of surgeons in general and our own conviction that a

follow-up system was advisable, and because many of the hospital staff were running systems of their own under Dr. Brewer's direction, a committee developed a system designed to keep track of every case admitted to the surgical service. The step in advance was that which included all of the patients in the hospital, and put the system in continuous operation, replacing the old practice of searching out groups of selected cases which were of particular interest to a surgeon on occasions or when his fancy for some reason or other demanded it.

The system is simple, as all such effective systems are. It makes a definite written appointment with the patient. If the patient does not return, he is reminded by mail of his appointment. Then if he does not appear, unless there is some reason for closing the case, a specially designated official makes a personal search. Clerical details are simple or complicated, depending upon the personnel and the filing system of the hospital. I shall not attempt to describe those which we employ. If anyone is interested, he will receive

a reprint on the matter from the Presbyterian Hospital on request.

The keynote of a successful follow-up in our experience of about ten years is the attitude of the attending surgeon. (I am speaking now of the purely surgical postoperative follow-up system.) This man—hero, priest, or whatever he may be to the patient at that dramatic moment—will dominate the personality of that patient, and his expressions, favorable or unfavorable, enthusiastic or negligent, will determine more than any other thing the percentage of follow-up returns amongst the group of patients in his organization. The house officer, who makes the actual appointment for the patient, and the follow-up nurse maintain the continuity of contact between the patient and the hospital. The patient is then brought back for examination by the individual who has performed the operation, whether he be the head of the service or one of the junior attendants.

If I should stress any one point, it would be the necessity of the operator conducting his own follow-up examination. In some organizations, the purpose of the follow-up system is to maintain efficiency. They, therefore, hold a view diametrically opposed to the above statement, calculating that inasmuch as the follow-up system is a check, this checking should be done by some individual other than the operator. In our ten years of experience, we have been through this phase and discarded it quickly because it is felt that medical work is of such an unmeasurable nature that it is impossible to judge, by one examination, the excellence, or otherwise, of the work done by a surgeon. It is our belief that men are what they are, and that the dishonest man will be dishonest despite any red tape which may be established. If there be on the hospital staff men whose integrity needs checking up, it is our feeling they can be better appraised by other methods and had better not be connected with that staff, leaving the benefits of the follow-up for those who wish to improve themselves and, thereby, the work of their organization.

The purpose of the follow-up, then, in our organization is to get the individual back for personal examination, if possible, and, if not, to obtain as complete information as possible by the means described above. The total results during the ten years have been surprisingly consistent. Of those patients followed, hardly two per cent have been completely lost sight of. In the early days, 76 per cent returned in person to the hospital, and the remainder were sought out by the follow-up worker, or reached by correspondence.

In the past few years, the number of patients appearing personally is in the neighborhood of 85 per cent. Our follow-up has reached from coast to coast. Many patients without our previous knowledge have come several hundred miles for the examination. The assumption that we are dealing with an unwilling agent in the follow-up work, so often expressed, is in our opinion incorrect. The surgeon need show but a moderate interest to maintain a very good percentage of follow-up returns. I shall not go into the causes of failure. They are those occurring in any social work.

The second point to be discussed is that of the "end-results." The follow-up system, however, has other purposes than the mere study of end-results. The patient receives more or less medical attention, such as supplementary advice concerning his convalescence, the discovery and management of new ailments, instruction in public health (particularly the development of the habit of undergoing periodic examination, even though well), co-operation with the social service and visiting nurses which will insure a more rapid and complete convalescence in those patients who need the services of these departments.

Returning to a discussion of the end-result system: in our organization the term "end-result" is not used, believing that the only end-result is revealed at the necropsy. We prefer, therefore, to use the term "interval result." On the unit history, in chronological order, is recorded whatever material is of interest to the examiner at the completion of the examination in the same fashion as an ordinary course note. In addition a certain portion of this is recorded in stereotyped form so that the record room staff can transfer it to cards in a filing system. Dr. A. O. Whipple has worked out a system whereby it is possible to judge the status of results of any particular disease which has received treatment in the hospital. This result is divided into three phases: First, that which has to do with the patient's symptoms and functions, taking cognizance not only of the symptoms which the patient had before treatment, but also of any others that may have developed, possibly as a result of the treatment; second, the anatomical result which considers the status of the original pathological condition and also of the harm or improvement consequent upon any operative procedure, such as the wound, amputation, or other mutilation; last, the patient's economic condition. This we believe to be, in the average patient's mind, of equal importance with the other two factors. Where a procedure for whatever

reason, whether through physical disability or because of bad habits developed during a course of treatment or prolonged convalescence, interferes with a patient's economic efficiency, it is probably of more importance to his dependents than his own discomforts. Knowledge concerning this point has emphasized the importance of carrying out those various occupational and physical therapies which have been so ably described here this afternoon. If their omission has permitted a man to become an economic failure, such failure should be indicated in the result.

The recording of this information on cards is simple. At each follow-up visit, there is put in the left-hand column of the history sheet the list of diseases recorded on the patient's diagnosis card. Opposite each disease are the symbols "A" (anatomical), "S" (symptomatic), "E" (economic), as well as a space to indicate the number of months after operation at which the follow-up examination is conducted. The numeral zero indicates failure, either partial or complete. Numerals "1," "2," "3," and "4" indicate the varying degrees of excellence of the result. For instance, the legend

Follow-up examination, twenty-two months	
P. O.	A. S. E.
Fibromyoma of uterus	4. 4. 4.

indicates that this person, by whatever operation had been performed, had been relieved of her symptoms present before operation, had developed no new symptoms, had a sound abdominal wound, if any, and a pelvic examination which was negative, and that she was fully able to do all of her work. If, on the other hand, we had written "2. 3. 2." it would mean that the result was qualified. In the particular instance which I am using for illustration, a sloughing fibroid had

been removed, and the patient was free of her sepsis. She, however, had a small hernia in the wound, complained of occasional pain in the lower part of the pelvis, and at the end of twenty-three months had not fully regained her ability to do her work.

It is a simple matter to transfer this information to cards so that at any interval, twelve months, twenty-four months, and so on, after an operation, one can obtain a very accurate impression of the results of treatment for any particular disease.

The use to which the information acquired in the follow-up examination is to be put is a matter for the members of an organization to decide. The study of results is no different from any other clinical study, and depends on the individual or group attitude and ability. Suffice to say that where the interval result is recorded, the stimulus to intelligent utilization of the material is very great.

To summarize, I should like to emphasize the fact that the follow-up system aims to bring the patient back to the hospital; that the main factor of success in getting patients to return is the attitude of the head of a service; and that, in general, it may be asserted that the hospital patient, as a class, will be thoroughly co-operative in any sympathetic effort. Secondly, the examination of the patient should be conducted by the operator. Thirdly, the end-result should consider not only the anatomical result, but the effect upon the patient's symptoms and upon his economic efficiency as well. Lastly, that no system can be devised to make the members of an organization study, if the urge for the search of truth be lacking. The information gained from the observations of such an individual, no matter how elaborate may be his system for recording statistics, will, in the long run, be unimportant.

6. A MINIMUM STANDARD FOR DISPENSARIES

BORIS FINGERHOOD, BROOKLYN
Superintendent, United Israel-Zion Hospital

Having been asked to discuss the "Minimum Standard" for dispensaries, it occurred to me, first of all, to review the situation as it exists today. It seems to me that we ought to ask ourselves whether the many thousands of patients who come annually to the dispensaries in this country are getting the best that the medical profession has to offer. Are the dispensaries giving the same quality of service to those applying for it as the hospitals of the country are

giving them today? Are the dispensary standards such as to provide correct diagnoses and adequate treatment for ambulatory patients?

Should we endeavor to take inventory of our practices centering about the enumerated phases, we would find ourselves compelled to answer these questions decidedly in the negative. This is more surprising in view of the rapid growth of the dispensary as an institution, its importance in the administration of medical care, and its

tendency towards organization in the interest of better service to those who otherwise would be deprived of the care to which they are entitled.

What, then, is an adequate explanation for this obvious inconsistency? The only explanation can be found in the lack of proper standards. Until 1915, the time of the inception of the movement for a Minimum Standard for Hospitals, initiated by the American College of Surgeons, the situation in the hospitals was similar to the one at present in the dispensaries. That movement, as all of you know, has succeeded through the combined efforts of surgeons, internists and hospital executives and has culminated in the adoption of the Standard by the majority of the larger hospitals of the United States and Canada.

The Minimum Standard for Hospitals insures the best care known to science and it will likewise accomplish a similar end for dispensary patients. Just as the ideals of standardization have proved attainable in the practice of hospitals, so can they be achieved in the conduct of dispensaries where they will result in great advantages not only to the patients but to the physicians as well.

The dispensaries were recognized for their great value as far back as 1868. Even at that time it was felt, judging from the press comments of that day, that the greatest service should be rendered in the prevention of disease. The need for the dispensary is evinced by its tremendous growth in the last two decades. In a recent study made by the New York Academy of Medicine, it was found that by a process of evolution, conditioned by various economic medical and public health forces, the dispensary has become an institution to which a large part of the wage earning class of our population resorts when in need of services not only of the internists but particularly of specialists whose advice, in a majority of cases, they could not otherwise obtain.

The recognition of this condition, according to that study, calls for a reconsideration of the entire dispensary problem from the point of view of economics, administrative policy, and, what in our opinion is most important, its relation to the medical profession. Disease should be treated in its incipient stages and death thwarted from crossing the threshold of many a crowded tenement by the immediate attention given to the patients by the dispensaries. While dispensaries are organized primarily to benefit the poor, their services are not limited in scope since they can become centers through which thousands of physical ills prevalent in all classes, may be averted.

Dispensaries can become institutions for efficient medical diagnosis and treatment, communal

health centers in their respective neighborhoods and, in addition, can afford valuable facilities for the training of physicians, nurses, and other workers in the cause of public health. However, we cannot fail to recognize from conditions prevailing at present in a great many dispensaries, that they have not developed to the fullest their medical and educational resources—a condition which should and can be remedied in only one way, and that is through the establishment of a Minimum Standard.

That this view of the situation is not a subjective one, may be evidenced by the fact that the Public Health Committee of the New York Academy of Medicine, only four years ago, found that with the increased complexity of modern urban life, the problems of the treatment and prevention of disease have come justly to occupy a prominent place in the social fabric of most of our communities. The hospitals and dispensaries should begin at once to realize their wider opportunities and responsibilities to certain public health activities; this more so because we invariably find that the lower the economic condition, the higher the percentage of illness, and vice versa, the higher the economic scale, the lower does the percentage of illness descend.

Hence the resort to dispensaries for general medical and surgical conditions is greater in the lower economic orders than in the higher. I know, however, that many of those present will think of the abuses on the part of the patients who are supposedly able to have recourse to the services of private physicians and still go to dispensaries. One may answer, first, that the largest part of those who apply for dispensary treatment do so mostly when in need of such treatment as would be entirely beyond their means were they limited to private physicians. Secondly, these abuses are for the most part exaggerated. In an investigation made in one of the large hospitals, it was found that only in twenty cases out of a thousand, the acceptance of free care offered by the hospital amounted to abuse. The investigators also found in that study, a striking demonstration of the utter impossibility for the vast majority of those patronizing the dispensary to pay for the kind of treatment and facilities that the institutions afford.

In a study of dispensaries conducted by the Illinois State Health Insurance Commission, it was found that 4.5 per cent of the patients were recipients of medical charity which their economic status did not justify. In this connection the report brought out also that it is well to bear in mind that the type of medical service needed is

important in determining whether or not a patient is worthy of dispensary treatment.

One may be well able to pay a general practitioner for treatment of a minor ailment or one of short duration but may be unable to pay for a specialist's services or for treatment continuing through a long period. We need not go into greater details to prove our contention that the extent of these abuses is exaggerated. We may merely state that many other studies in various cities have given similar results.

We are, therefore, hopeful that we may look to the whole-hearted co-operation of the medical profession in our desire to utilize to the fullest extent the opportunities the dispensaries present for the application of proper and accurate methods in diagnosis and treatment of the cases that present themselves to the dispensaries.

An improvement in these respects is most desirable and may be looked for to the profession only. The members of the medical profession, irrespective of the station or grade in which they find themselves in their respective services in the hospitals, must not look upon the dispensaries as upon a sort of necessary evil inflicted upon them.

The physicians are privileged to belong to a calling which in our humble opinion is the highest in the field of human endeavor. They can accredit themselves most honorably by giving of themselves more liberally in the service of those

applying not alone to the hospitals but to the dispensaries as well. This must be done not only in the interests of medical advancement but what is of greater importance, the interest of public health.

The only way to accomplish this is by adopting a Minimum Standard by which dispensaries will be measured. After such a Standard has been adopted, the College of Surgeons should rate the hospitals in which there are dispensaries, jointly from the point of view of both Minimum Standards—the hospital and the dispensary. Of what this Standard should consist cannot adequately be disposed of in the brief time allotted me. I shall merely content myself with the indication to a few fundamental and basic conditions:

1. Adequate space and technical equipment for the clinics.
2. Definite responsibilities of senior staffs of hospitals toward the clinics of the dispensaries.
3. Higher prerequisites for the appointment of members to the medical staffs of the dispensaries.

The proper application of these and several other principles, the enumeration of which we are compelled to leave for another occasion, will undoubtedly bring the desired results to the patients and will give gratification to all those who will earnestly devote themselves to the service of the dispensary patients.

7. SOURCES AND PREVENTION OF HOSPITAL INFECTIONS:

(A) CLEAN SURGICAL WOUNDS

(B) INFECTIOUS DISEASES IN GENERAL WARDS

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The subject assigned to me, viz., "Sources and Prevention of Hospital Infections: (a) Clean surgical Wounds; (b) Infectious Diseases in General Wards" is a subject about which so much can be said that it would take hours to go into detail. Therefore, I will try to summarize the same in a schematic way, *i.e.*, to give the source, and attempt to give the prevention of these hospital infections.

(A) CLEAN SURGICAL WOUNDS

SOURCE	PREVENTION
Improper surgical technic or break in proper surgical technic.	Improvement in technic by picking up any break, not only of the surgeon himself, but of the medical and nurse assistants.
Skin Infections	Area of operation should be properly prepared, and all detritus and fatty material removed from skin prior to operation.
Sutures and Ligatures	Most infections from sutures and ligatures are in institutions preparing their own sutures and ligatures. These should be checked up frequently in the laboratory for bacterial content. It is much better to purchase sutures and ligatures from some reliable surgical supply house, and if the containers are open for any length of time, these should be checked up in the laboratory for bacterial content.
Dressings	Dressings should be properly sterilized and the sterilizers checked up by the Diack process to test out their efficiency.
Redressings	Surgeons doing redressings should use surgical precautions and proper sterilized dressings.
Erysipelas	All cases of Idiopathic Erysipelas, as well as Traumatic Erysipelas, should not be in the same ward with clean surgical cases.
Gas Gangrene	Immediately on the discovery of a case which begins to

show Gas Gangrene, remove same from ward and isolate so as to prevent further infection.

Tetanus is an infection that occurs in clean wounds, and often they are entirely healed before showing symptoms, the germ being brought into contact with the injured parts in gunshot wounds, industrial and railroad accidents.

In all cases of this nature, anti-tetanic serum should be given on admission to the hospital.

(B) INFECTIOUS DISEASES IN GENERAL WARDS
—I believe that this should be discussed in two classes, viz., *adult* and *children*.

ADULT

Malaria	Extermination of mosquitoes, and screening of all windows in hospital, and screening of bed of patient under treatment for this disease.
Typhoid Fever	Proper isolation and screening of patient, and instructions to all those taking care of patient to wash hands before drinking or eating. To disinfect and destroy all vomitus, urine and feces excreted by the patient.
Typhus	By delousing of the patient and any others having been in contact, by keeping patient for at least 40 days, and contacts for 14 days in isolation. Those caring for patient to be instructed to be careful that no lice come in contact with them. This can be prevented by wearing caps and gowns, and immediately washing hands and face after coming in contact with patient.
Diphtheria and Scarlet Fever	Early diagnosis and isolation. Remove to hospital for contagious diseases, if there is one in the neighborhood. Watch all persons having been in contact with the patient, as well as those taking care of the patient.

Smallpox: In many parts of our country during the past two years there has been considerable smallpox due to the propaganda of the anti-vaccinationists and other cults. These outbreaks would have been prevented if proper vaccination had taken place.

Gonorrhœa

Syphilis

Early diagnosis is absolutely necessary; afterwards isolation and careful watching of those having been in contact with the patient, and precaution taken by those caring for same, particularly in relation to wearing gowns and immediately washing hands after coming in contact with the patient.

Same as infected wound. Destroy all dressings. Separate toilet and bath.

Same precautions as typhoid or pneumonia. Separate dishes, glasses, and other utensils, to be used by these patients only. Separate toilet and bath.

CHILDREN: All children on admission should be placed in isolation and detention for not less than two weeks, preferably three weeks, as measles occasionally develop during the third week. All children should be given the Schick test to find out whether they are immunized against diphtheria; and the Dick test to find out whether they are immunized against scarlet fever. Children should not be allowed to come in contact with each other during this period of isolation and detention. Any case of contagious disease breaking out in a ward on the children's service should be immediately isolated.

Diphtheria

Patient should be given diphtheria antitoxin, and all other children having had contact with the patient should be given immunizing doses of toxin antitoxin unless they have been shown to be immune with the Schick test; these should be carefully watched for at least one week for further contagion. All persons coming in contact with patient should wear caps and gowns and immediately wash hands to prevent further infection.

Scarlet Fever, Measles, German Measles, Whooping Cough and Chicken Pox.

Patient should be immediately isolated and all contacts watched for further infection. All persons coming in contact with patient should immediately wash hands to prevent further infection.

Vaginitis

Isolation and same precautions as other infectious diseases. Separate toilet and bath.

Should there be a hospital for contagious diseases in the city or neighborhood where these infectious diseases occur, the patient should be immediately transferred to that hospital as there is likelihood of further outbreak of contagion if patient remains in hospital.

8. INCREASING AND RECORDING OF CONSULTATIONS IN A HOSPITAL

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I have been assigned this afternoon the subject of "Increasing or Stimulating and Recording Consultations in the Hospital." We are all agreed, I suppose, that all other things being equal, the more consultations we have in the hospital, the better. It may be that some people will get consultations that are not needed, others perhaps will get consultations that may not do them any good, and possibly some may have consultations that may hurt them; but aside from all that and generally speaking, the more consultations we have, the better. By all odds, the most important single factor that you could possibly have in the stimulation of consultations is the staff conference. There is not anything that will do the work for you like that; and if it is argued that, by the time your case comes to the staff conference, the case has passed on, because most of our

staff conferences are dealing with morbidity, it perhaps does not hold true because the lesson learned in the staff conference is never forgotten. When a man reporting his case is asked, "Did you have a consultation?" and he answers in the negative, the next question is "Why not?" That will fix the situation in his mind, so that it may never happen again. The staff conference will correct that for all of us better than any other method I can think of.

In cases where the staff organization is very loose or where perhaps the presence of a large courtesy staff may give rise to varying conditions, in which the administration of the hospital may properly lay down rules, what objection could there be to a rule stating that in the hospital all obstetric cases that remain in labor more than 24 hours must be seen by a member of the obstetrical

staff? What possible objection could there be to that? Anybody who knows anything about obstetrics will tell you that more good can be done in obstetrical consultations than in any other branch of surgery. What harm, where there is a large surgical staff, to require a member of the surgical staff to make a thorough examination and state his opinion as to operation in the case of men outside the regular staff? Possibly the doctor may object, but if the hospital is in the field for service, then I fail to see why such a rule could not be enforced. So much for stimulating consultations.

For recording consultations, much depends upon the size of the hospital, but always the request for the consultation must be definitely stated on the record, and the question to which an answer is requested, must be asked on the record, and signed by the one asking the consultation. It is not enough to say "Consultation is wanted," but a definite question should be asked of the service that is being called in. When the consultation is granted, the consultant must write his findings on the record—must answer the question, and must sign it. So much for recording it.

In our own hospital we have a box in the coat room, the room that all the doctors come to on entering the hospital. It is a box about this size, (indicating) with pigeonholes, and in each one of those pigeonholes is a book on which is the name of the different services. The house officer on each service writes in each book every day his

consultations asked for; he writes the consultation in the book of the department from which he expects the consultation; he writes the name of the patient, the ward, and the bed number, and the date. When the consultant grants a consultation, he writes in his initials and the date, and that serves as a record for consultations asked and consultations obtained. We use a special consultation blank, as they do in most places, but we are really very doubtful as to the value of it. It seems to us that the best place for the consultation note is in the body of the record—in the progress notes. Certainly that holds true when a great many consultations are asked and the consultant going over the record has to turn over a great many pages and look here and there for consultation blanks and wonder where they occurred in the progress of the disease. If he had this information in the body of the record, in chronological order in the progress notes, it would be much simpler. The only objection to using that method and getting away from the consultation blank entirely is that a check-up of the record room in tabulating consultations obtained would possibly be lost.

This system that we have for getting consultations works, and as proof for it I might say that in one of our Brooklyn hospitals—the Greenpoint—which is a 254 bed hospital, we had 3,000 consultations last year; we had about 3,000 discharges, so that really you might figure there was at least one consultation for every patient.

9. THE NEED FOR MORE UNIFORMITY OF CASE RECORDING IN HOSPITALS

WELLS F. SMITH, M.D., LITTLE ROCK, ARKANSAS.

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At the outset I desire to state that I will endeavor to demonstrate to you in about three minutes that this organization, like a great railroad, has proper terminal facilities, and that the best thing about my paper is going to be the fact that it will take about three minutes.

There has been so much said, and so well said, on the subject, and as it has touched about every part of case records that could be touched, I feel that it is useless to go very much into detail about that feature. However, there are a few points that I wish to emphasize. The component parts of a record are pretty well understood. The identification of the patient is the first one. Those of you who have consulted your program have no doubt learned that I am from Arkansas. To the few of the faithful who have remained here, that

may not mean very much, but to illustrate my point about identification I desire to state that you will find Missouri lying on the north; Missouri, Tennessee and Mississippi lying on the east; Louisiana and Texas lying on the south; Texas and Oklahoma lying on the west; in fact (now here is the complete identification) you will find most of the states lying about Arkansas.

Now, one of the things in the component parts of the history that I desire to bring especial attention to is the physical examination. That should be accurate. To say that the head and lungs and heart are negative does not mean anything; but it should state what an examination of the head, chest, and abdominal cavity reveal.

I have great trouble with my internes also in getting them to record a working diagnosis. I

think before any orders are written, that a working diagnosis should be put down. There is no use cheating when you are playing solitaire; and if you do not put your working diagnosis down until after your patient is dead and your laboratory tells you what your diagnosis is, or your postmortem reveals your mistake, you have not learned anything.

In so many of the hospitals there are a number of doctors who have charge of the patient. I think some one doctor should be responsible for the treatment and sign the orders.

Another thing that I think should be observed in the case records is that the doctor's orders should be written on the case record. In many hospitals these orders are written in a book and transferred to the case history by a nurse. That is not the doctor's record of the case. There is one element of inaccuracy that can be avoided if the doctor writes the order himself.

We have heard a great deal today about the pathologist. I think a very important part of a case record is that the pathologist's report should be recorded. I think that the pathologist, or the morbid anatomist, as I believe they will be called before long, should be present in the operating room at the time of the operation, and I think that if an apparently normal appendix is removed, the case record should record that fact. Mine do—once in a while.

There is another part of the case history to which I think particular attention should be paid, and that is the progress notes. That really is a bird's-eye view of the case as it goes along, and I think that the doctor himself should record a few of them.

The condition of the patient on discharge

should be recorded on the history, and you should also be frank with the patients and tell them what the condition is. Not long ago I had a patient upon whom I did a curettage. The laboratory report came back and stated that the scrapings from the uterus were very suggestive of malignancy. I notified that patient and recorded it on the progress notes. I told her that she ought to report in 60 days, and I told her that the responsibility was hers if she did not, and so recorded it on the case history.

In the operative sheet on the case history, I think that the gross findings and what was done should be recorded by the surgeon himself. If you dictate to your first assistant or your anesthetist during your operation what has been done, there is an element of error there. Suppose a medico-legal case came up, the first thing the opposing lawyer would ask would be, "Doctor, did you record that?"

"No, I did not, I dictated that to my assistant and he recorded it."

"Well, how do you know that he recorded what you told him? Did he ever make a mistake? What other case did you operate on that day?"

"I do not know."

"You do not know?" Then your case will be very properly excluded.

My opinion is that the history of the case need not be a book nor a novel, but it should be a clear, concise record of the patient's condition on entering, progress during stay, and condition on departure.

Recorded thought is our greatest heritage and our chief legacy to posterity; so let our case histories be 50 years from now because they are the only record in the hospital that will be available.

10. ESSENTIALS FOR EFFICIENT ANÆSTHESIA IN HOSPITALS

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Superintendent, Toronto General Hospital
AND

P. J. FLAGG, M.D., NEW YORK
Visiting Anæsthetist, Rockefeller Institute, Roosevelt and St. Vincent's Hospitals

In dealing with this subject I must, of necessity, refrain from any technical discussion both in my remarks and any discussion which may follow. The opinions which I offer are based entirely upon my experience as a lay superintendent of a general hospital (seven hundred and sixty beds).

Perhaps the first essential for efficient anæsthesia in a hospital is recognition by the admin-

istrative board of the hospital of the great importance of good anæsthesia.

Let us not forget that probably the most important and trying moment in a patient's life is the time when he is to receive an anæsthetic; especially his first anæsthetic. He is about to enter into a state of oblivion, and who knows but what in his mind, he is facing eternity. He also has a horror of the after-effects. Therefore, it

must be a great comfort to have the assurance beforehand, that a skilled anæsthetist is going to carry him through this crisis, and that he need have no trepidation as to any distress during the induction of the anæsthetic, and to be able to rest assured that there will be little or no nausea or vomiting afterward.

The chief aim of the conscientious surgeon, of whom I have the pleasure of knowing a considerable number, is to attain the best results and to insure them for his patient.

Where an expert is administering the anæsthetic, the surgeon is relieved of any worry, knowing that if there is any need of alarm, there is one individual, and one only, who knows the condition of the patient, and who can give an approximate estimate of the patient's endurance. The surgeon will receive any information of an alarming nature from an expert anæsthetist, without any semblance of panic.

Assisted by skilled anæsthesia, the surgeon is able to do his work without any interruptions, such as straining, tremor, vomiting, or what is worse, collapse of the patient, due to faulty administration. He can perform operations which otherwise would be impossible. He can have whatever method of administration is most suitable for the particular operation to be performed. He can have his patient in any position. He knows that the best judgment will be used in the choice of the drug to be administered, both for the safety of the patient at the time of operation and subsequently.

I know of nothing more distressing to the surgeon, or nothing so detrimental to his reputation, than to have performed a most difficult and skillful operation, and then have the patient so terribly shocked as a result of the unskilled administration of the anæsthetic, or the improper choice of the drug administered, that the result is a failure.

On the other hand, there is nothing more gratifying to the surgeon, than to have his patient suffer little or no bad effects from the anæsthetic, and to have his skill receive the commendation it deserves.

The after-care of the patient is reduced to a minimum and the surgeon is not worried about the horrible complications which so often follow unskilled anæsthesia.

Every broad-minded, fair-thinking hospital trustee must recognize the hospital's responsibility to provide competent anæsthetists for its surgical staff, and the organization chosen and the system designed to this end must assume and discharge, on behalf of the board, all responsibility in connection with the hospital anæsthetic

service. Inasmuch as the hospital in its public service is responsible to the patient, it is deeply concerned in the comfort and safety of the patient as regards anæsthesia. Furthermore, from a hospital's standpoint it is important that this service be obtained with maximum economy to hospital and patient, as the public ward patient is usually carried at a rate considerably below the actual cost to the hospital.

The surgeon's demands upon the anæsthetic service are very similar to those of the board of trustees of the hospital with particular emphasis upon efficient anæsthesia. The hospital looks to its surgical staff to give, at all times, the very best that is in them, holding the surgeon responsible for efficient surgery and a successful end-result wherever possible. Too often the important factor of good anæsthesia is neglected and the disturbing influence of poor anæsthesia upon the surgeon's work is discounted or entirely disregarded. The surgeon's responsibility in an operation is one which few, if any, will attempt to underestimate, and it is decidedly unfair to place him in a position where he must concern himself with the patient's condition.

It is the duty of the hospital to provide an anæsthetic service which will be composed of competent anæsthetists, who are thoroughly trained in the art, and who inspire confidence, not only in the surgeon but in the patient, who is the chief consideration.

With the knowledge of essentials of an efficient anæsthetic service in the hospital, as I have outlined in a very general way, let us consider how such a service may be built up.

Regardless of other factors of greater or less importance, the primary requisite of efficient anæsthesia is competent, well organized personnel. I feel that in dealing with this phase of the question, many will not agree with me in what I have to say. In my opinion, no hospital organization is complete without a service or department in anæsthesia, the head of which shall be regularly appointed by the board of trustees of the hospital and shall carry the same responsibility for the service of which he is head, as the chief of surgery, the chief of medicine, or any other departmental head of a hospital service.

The anæsthetic staff should be carefully chosen by the chief of the department and appointed by the board of trustees, only after the board has received from him the same satisfactory assurance of ability, competency and loyalty, on the part of his nominees, that they exact from all other department heads when appointments to the staff of the hospital are made. The anæsthetic

staff of the hospital should hold the same status, both with regard to hospital privileges and what may be expected of them by the hospital, as other members of the hospital visiting staff. That is to say, they must be prepared to give of their services gratuitously in the interest of the public service of the hospital. They must be prepared to make the same sacrifices of time, which oftentimes means money, as are made by the members of the departments of surgery and medicine. In order that good anaesthesia may be perpetuated, every university's curriculum should contain a course in anaesthesia, the practical end of which should be under the direct supervision of the department of anaesthesia in a hospital.

The Toronto General Hospital has an anaesthetic department, which consists of a chief and nine assistants, all of whom are expert in this art. This department is as distinct as the departments of surgery or medicine, or any other department, the chief having the same authority as those of the other departments. The chief is a member of the Medical Advisory Board of the hospital, which is composed of the heads of the various departments. He is also Lecturer in Anaesthesia in the Faculty of Medicine of the University of Toronto.

There are eight public ward surgical services in the Toronto General Hospital. Each service consists of a head and his assistants, and each service has its own operating room. In general surgery, there are three divisions. There are also gynecology and obstetrics, ear, nose and throat, eye, genito-urinary, and the emergency departments.

To each of these eight services, one of the nine assistant anaesthetists is assigned for a month, with full responsibility for this service, either by day or night. The remaining anaesthetist is used as a float. At the beginning of each month, the anaesthetists rotate, so that each has his turn on the different services.

Where a patient is in serious condition, or where there is any reason for worry on the part of the anaesthetist in charge, he reports to the chief, who will either give the anaesthetic himself, or delegate one of the senior assistants. In this way, the surgeon is very much relieved of worry and likewise the anaesthetist.

Each anaesthetist has a schedule given him the beginning of the academic year, October 1. A schedule is also placed on the bulletin board of each operating room.

Every evening the senior interne on each service reports the hours of operation for the following day to the anaesthetist on that service. At

7:30 each morning the hospital reports a list of the operations on the various services for the day to the chief anaesthetist. Thus a complete check is kept on the work.

From time to time, the anaesthetic staff holds meetings, at which problems and difficulties which they have encountered are reported and discussed. The superintendent is present at these meetings. Each member, in this way, has the advantage of the experience of the others. The teaching and supervision of the students are also discussed at these meetings. Thus the efficiency and interest of the staff are kept up.

There are rare occasions when it is quite impossible for an anaesthetist to meet the demands of a service upon him. This must not be a frequent occurrence, but when a legitimate cause renders it impossible for him to be there, the chief anaesthetist is notified and it is his duty to arrange for the hour, either by another member of the staff, who is not busy at that hour, or by taking it himself, if at all possible. There are emergent operations in which it is impossible to await the staff anaesthetist's arrival. To meet such emergencies we have appointed, on the recommendation of the chief anaesthetist, three senior internes who have been given special training in anaesthesia and who are pronounced by the chief anaesthetist qualified to cope with the average case. These men are brought into service only with the approval and on the responsibility of the chief anaesthetist. Internes receive instructions in anaesthesia and are permitted to give the anaesthetic only in the presence of a staff anaesthetist, who himself assumes all responsibility. In my six years as superintendent of a hospital employing this system, I can recall but two specific justifiable complaints against the anaesthetic service. In order that any system may work smoothly we must have the full co-operation of the surgeon and in fact of the entire hospital staff.

We insist that the surgeon be not kept waiting by the anaesthetist arriving ten or fifteen minutes or half an hour after the scheduled time of the operation. We also insist that the surgeon keep his appointments promptly and does not keep the anaesthetist waiting.

Records are kept, and it is important that they should be kept in all hospitals, which give complete data concerning the operation and the anaesthetic, including the scheduled time of operation, the time of arrival of the anaesthetist, time of arrival of the surgeon, time operation commenced, reasons for any delay, type of anaesthesia given, and such other information as may be valuable to the record.

The hospital has absolutely nothing to do with private anæsthetics. This is a matter between the physician, the patient, and private anæsthetist. We assume no responsibility, other than to insist upon the observance of certain hospital rules and regulations which are designed for our own protection, and as far as possible for the protection of the patient. The anæsthetist sets his fee and collects it from the patient.

DR. FLAGG: This October we celebrate the 78th anniversary of the introduction of ether by the Massachusetts General Hospital.

If Morton were here today, it is fair to believe that he would himself support this view, for when he was pressing his claims against Jackson for congressional recognition of his discovery, and Long's earlier work of 1842 was made known, both Jackson and he promptly dropped their claims. The discovery of Long in 1842 and that of Morton in 1846 while independent and altogether praiseworthy depended upon hospital or group demonstration and recognition before it became generally adopted.

The hospital provides the criterion of excellence for the community, but while team work does and may develop excellence, on the other hand by distributing burdens over a large and varied personnel, it may also permit and obscure mediocrity.

In discussing the essentials of anæsthesia in hospitals, therefore, we, the hospital, cannot content ourselves with a standard working merely for group efficiency. As the formal custodians of what is best in medicine, we must accept the burden which is ours of showing the community or the general practitioner how he is to do his best work. Furthermore, it must be constantly borne in mind that the hospital is ever a teaching institution, setting an example to medical students, internes, and nurses. The essentials of anæsthesia in hospitals are therefore:

1. Personnel. 2. Equipment. 3. Co-operation.

Until the question of personnel is definitely settled; until a standard is finally fixed by the American College of Surgeons, we will have no common basis upon which to discuss equipment and co-operation.

The speaker maintains that the administration of anæsthetics is the most difficult and critical branch of therapeutics, that during anæsthesia medical judgments are being repeatedly made and acted upon by the anæsthetist, whose diagnosis as to the present physical state and decision as to the next dose necessary, constitute to the fullest degree the practice of medicine.

The speaker is convinced that an unwillingness on the part of many institutions to properly

standardize the personnel administering anæsthetics is resulting in:

A. A criterion proposed to the general practitioner which, while workable in the institution, is so low and so completely dependent upon group support, that when it becomes severed from this support and permitted to operate independently, outside the hospital, the result is the secularization of medicine, unnecessary complications, and preventable deaths.

B. Loss of morale among those whose duty it is to carry on and perfect this branch of medicine.

We see medical students looking upon anæsthesia as the ordinary duty of the nurse. We see the remarkable spectacle of the nurse lecturing to medical students on the subject of anæsthesia. We see the general practitioner who has had no training in anæsthesia depending upon nurses, who in turn look to him for supervision. We encounter delusions of grandeur on the part of the nurse who sets herself up as a judge of new agents. We find anæsthesia being administered by those who have no training whatever as nurses or physicians (pre-medical students).

Judging from the remarks of many who accept the lay anæsthetic situation, we are led to wonder why the present-day nurse is not openly invited and encouraged to practice any special branch of medicine which may suit her fancy. How must the middle-aged general practitioner of today feel when he hears that, "A good nurses' training school of today compares very favorably in its educational standards with that of the medical school of 25 years ago." The implication being that both he and the nurse are equally well educated, and therefore it is unbecoming that he object to her activity in what he has hitherto looked upon as his exclusive field.

We read of the carefully trained nurse anæsthetist whose minimum experience must be six months as assistant, and under a year's supervision by a trained lay anæsthetist; we are advised that anæsthesia administered by such personnel is equal to or even better than that of the untrained medical student and interne.

Why not spend a little time in training medical students and internes so that as general practitioners they may at least be able to anæsthetize their own cases? Why should we focus all training in anæsthesia upon a special group of nurses some of whom will find their way into completely unsupervised positions.

We are also advised that the question of nurse anæsthesia is the result of the specific demand on the part of the surgeon for better anæsthetists. That the individual surgeon has the matter in

his own hands, and if he chooses he can stop abuses immediately, as no self-respecting surgeon will tolerate dictation from an institution regarding service to his patient. In other words, we are led to believe that the surgeon is entirely free and unhampered in his work, that he is moved only by the highest ideals and is not a prey to the human weaknesses besetting other medical mortals. From this point of view lay anæsthesia is proper and good, not because of any intrinsic value which it possesses but because surgeons are proper and good and have chosen this form of assistance for their work.

Again we are advised that the nurse anæsthetist is not interested in the operation which is taking place. Here the value of a knowledge of surgical technic in regulating the depth of the anæsthesia is apparently ignored.

The nurse who has had special experience in anæsthesia for a period of two years and upward is expected to remain quiet, gentle and amenable, never questioning her medical chief. We happen to know that this is not so.

We are told that the nurse anæsthetist needs coolness, initiative, and resourcefulness, and we are thereby led to wonder what the nurse is expected to do with these alarming qualifications.

The minimum requirements are held forth, with no one to enforce them.

Lastly, it is suggested that the medical anæsthetist and nurse technician working together, solve the problem; the former by the exercise of his medical wisdom and the latter by her innate gentleness, tact, and fine sense of touch. This ideal while workable in group medicine does not relieve the situation outside the hospital.

May we not assume that everyone is doing the best he can; the hospital, the surgeon, the general practitioner? Each is following a standard which has been proposed to him as practical and desirable. What benefit can come of going out of our way to condemn or force by legislation? Let us rather attract by holding forth an ideal based upon what we *know* to be the best, and which those, who are free to do so, tacitly confess. Let us state our conception of the dignity, the worth, the critical importance of anæsthesia and the impossibility of its best administration and fullest development outside of the legitimate practice of medicine.

Place this ideal before the *medical schools* and the *hospitals* of the country and in ten years your hospitals will be properly manned and your surgeons relieved of the double burden of operation and anæsthetic responsibility.

ANALYSIS OF HOSPITAL SERVICE

FOR MONTH ENDING

DISCHARGED		CAUSES OF DEATH	
Cured.....	48	Retrocæcal abscess.....	1
Improved.....	117	Endocarditis, malignant.....	1
Relieved.....	0	Illuminating gas poisoning.....	1
Unimproved.....	8	Peritonitis, tuberculous.....	1
To return for secondary operation.....	2	Umbilical hæmorrhage, newborn.....	1
Admitted for diagnosis only.....	1	Stillborn.....	2
Deaths within 48 hours.....	2	Premature birth.....	1
Deaths institutional.....	8	Infective jaundice infant.....	1
Released.....	0	Strangulated femoral hernia.....	1
Labor.....	42	Cerebral hæmorrhage, traumatic.....	1
Newborn.....	43		
Total discharged.....	271		

DIAGNOSES

[illegible]

INFECTIONS

Institutional		On Admission		UNIMPROVED	
Medical.....	0	Medical...	0	Operation advised.....	1
Surgical.....	5	Surgical...	12	Suspected carcinoma stomach.....	1
Obstetrical.....	0	Obstetrical.....	0	To return for operation.....	1
	—		—	Hypertrophied tonsils, no operation.....	1
Total infections..	5	Total infections..	12	Hyperthyroidism and myocarditis.....	1

CONSULTATIONS

Asked and obtained.....	24
Asked, not obtained.....	0
Indicated, not asked.....	0

DEATHS

Medical.....	3
Surgical.....	2
Obstetrical.....	0
Newborn.....	4
Stillborn.....	2
<hr/> Total deaths.....	11

AUTOPSIES

Medical.....	0
Surgical.....	0
Obstetrical.....	0
Newborn.....	1
Stillborn.....	5
<hr/>	
Total autopsies ..	1

UNIMPROVED

Operation advised.....	I
Suspected carcinoma stomach.....	I
To return for operation.....	I
Hypertrophied tonsils, no operation.....	I
Hyperthyroidism and myocarditis.....	I
Tuberculous peritonitis, pulmonary tuberculosis.....	I
Brachial paralysis.....	I
Fractured ulna—to return for further treatment.....	I

Total unimproved.

CASE HISTORY DEFICIENCIES

CASE NUMBER	Identification data	Complaint	Personal history	Family history	History of present illness	Physical examination	Special reports	Consultations	Clinical laboratory	X-ray	Other	Provisional diagnosis	Medical or surgical treatment	Pathological findings	Gross	Microscopic	Progress notes	Final diagnosis	Condition on discharge	Follow-up	Autopsies
4965			✓									✓				✓				✓	
4969				✓	✓												✓				
4970		✓						✓					✓							✓	
4973																	✓				
4974		✓			✓			✓								✓					
4979	✓		✓							✓							✓			✓	
4981				✓				✓													
4986		✓		✓		✓		✓								✓					
4989									✓											✓	
4990			✓			✓							✓						✓		
4995													✓			✓					
4999			✓									✓								✓	
5000	✓									✓					✓						
5002			✓					✓								✓					
5004		✓						✓								✓					
5010		✓		✓								✓									
5011			✓							✓		✓								✓	
5013								✓		✓											
5017				✓								✓				✓					
5019	✓							✓						✓							
5025			✓										✓								
5027		✓										✓									
5028				✓															✓		
5029									✓												
5030		✓								✓										✓	
Total		3	7	7	3	5	1	5	3	3	4	3	3	4	1	4	6	1	2	7	

LABORATORY REPORT

Urinalysis	
Routine	276
Functional	12
Quantitative	28
Cultures	11
Blood Examinations	
R.B.C.	121
W.B.C.	182
Differential	60
Hæmoglobin	139
Coagulation time	122
Typing	6
Wassermann	47
Widals	12
Cultures	14
Blood chemistry	
Blood sugar	16
Blood urea	17
Non-protein nitrogen	14
Creatinine	11
Uric acid	14
Others	0
Tissues	
Gross	47
Microscopic	47
Spinal Fluid	
Cell counts	8
Colloidal gold	9
Cultures	6
Globulin	7
Wassermann	9
Gastric analysis	10
Stool examinations	8
Smears	13
Animal inoculations	4
Sputum examinations	23
Vaccines	8
Exudates	5
Transudates	7
Throat cultures	21
Basal metabolism	11
Autopsies	6
Miscellaneous	0
Total	1351

REPORT OF X-RAY DEPARTMENT

Radiographic examinations	51
Fluoroscopic	23
X-ray therapy	15
Total	89

NUMBER OF HOSPITALS MEETING THE MINIMUM STANDARD

	100 or more beds			50 to 100 beds			All hospitals over 50 beds		
	Number of hospitals	Approved		Number of hospitals	Approved		Number of hospitals	Approved	
		Number	Percentage		Number	Percentage		Number	Percentage
Alabama.....	10	9	90	17	6	35.3	27	15	55.6
Arizona.....	2	2	100	5	2	40	7	4	57.1
Arkansas.....	6	5	83.3	10	6	60	16	11	68.8
California.....	56	48	85.7	34	12	35.3	90	60	66.6
Colorado.....	12	12	100	9	4	44.4	21	16	76.2
Connecticut.....	16	16	100	12	4	33.3	28	20	71.3
Delaware.....	1	1	100	2	1	50	3	2	66.7
District of Columbia.....	12	11	91.7	1	..	..	13	11	84.6
Florida.....	6	4	66.7	9	3	33.3	15	7	46.7
Georgia.....	12	9	75	17	8	47.1	29	17	58.6
Idaho.....	1	1	100	8	6	75	9	7	77.8
Illinois.....	60	48	80.5	61	20	34.4	140	68	52.3
Indiana.....	22	18	81.8	15	10	66.7	37	28	75.7
Iowa.....	14	13	92.9	24	15	62.5	38	28	73.7
Kansas.....	6	6	100	28	18	64.3	34	24	70.6
Kentucky.....	9	9	100	18	9	50	27	18	66.7
Louisiana.....	7	7	100	11	8	72.7	18	15	83.3
Maine.....	5	5	100	11	4	36.4	16	9	56.3
Maryland.....	10	15	93.8	10	7	70	20	22	84.6
Massachusetts.....	49	44	89.8	34	21	61.8	83	65	78.3
Michigan.....	27	25	95.2	21	15	71.4	48	41	85.4
Minnesota.....	27	26	96.3	21	11	52.4	48	37	77.1
Mississippi.....	6	4	66.7	10	4	40	16	8	50
Missouri.....	35	28	80	19	11	57.9	54	39	72.2
Montana.....	9	7	77.8	9	5	55.6	18	12	66.7
Nebraska.....	12	8	66.7	13	4	30.8	25	12	48
Nevada.....	0	..	..	2	2	100	2	2	100
New Hampshire.....	2	1	50	12	10	83.3	14	11	78.6
New Jersey.....	38	36	94.7	13	10	76.9	51	46	90.2
New Mexico.....	0	..	..	5	4	80	5	4	80
New York.....	137	123	89.7	78	40	51.3	215	103	75.8
North Carolina.....	8	5	62.5	22	15	68.2	30	20	66.7
North Dakota.....	5	5	100	7	2	28.6	12	7	58.3
Ohio.....	44	44	100	37	28	67.6	81	69	85.2
Oklahoma.....	2	2	100	14	3	21.4	16	5	31.3
Oregon.....	5	5	100	14	4	28.6	19	9	47.4
Pennsylvania.....	89	79	88.7	82	39	47.6	171	115	66.9
Rhode Island.....	4	4	100	3	2	66.7	7	6	85.7
South Carolina.....	7	4	57.1	9	3	33.3	16	7	43.7
South Dakota.....	5	5	100	12	10	83.3	17	15	88.2
Tennessee.....	10	9	90	12	8	66.7	22	17	77.3
Texas.....	21	19	90.5	32	18	56.3	53	37	70
Utah.....	5	5	100	1	1	100	6	6	100
Vermont.....	1	1	100	5	4	80	6	5	83.3
Virginia.....	7	7	100	31	22	71	38	29	76.3
Washington.....	19	16	84.2	19	9	47.4	38	25	65.8
West Virginia.....	8	6	75	21	13	61.9	29	19	65.5
Wisconsin.....	27	22	81.5	26	11	42.3	53	33	62.3
Wyoming.....	2	..	..	6	3	50	8	3	37.5
Totals for United States.....	893	780	87.4	893	477	53.4	1785	1217	70.1
Alberta.....	7	7	100	4	4	100	11	11	100
British Columbia.....	7	7	100	7	3	42.9	14	10	71.4
Manitoba.....	9	9	100	1	..	..	19	9	47.4
New Brunswick.....	2	2	100	9	8	88.9	11	10	91
Nova Scotia.....	3	3	100	9	0	0	12	12	100
Ontario.....	26	20	76.9	30	11	36.7	56	31	55.4
P. E. I.....	0	..	..	3	3	100	3	3	100
Quebec.....	11	10	91	9	5	55.6	20	15	75
Saskatchewan.....	5	4	80	8	8	100	13	12	92.3
Totals for Canada.....	70	62	88.6	80	48	60	189	110	71.3
Grand Totals.....	963	842	87.4	973	525	53.9	1974	1327	70.4

LIST OF HOSPITALS

Following is a list of approved hospitals for 1924. The asterisk indicates that certain hospitals have accepted the requirements which result in the best scientific care of the patient but are not, for the lack of time or other acceptable reasons, carrying them out in every detail.

ALABAMA

100 or more beds

Birmingham Baptist Hospital, Birmingham
Employees Hospital, T. C. I. R. R. Co., Birmingham
Hillman Hospital, Birmingham
Mobile City Hospital, Mobile
Moody Hospital, Dotham
Norwood Hospital, Birmingham
Providence Infirmary, Mobile
St. Vincent's Hospital, Birmingham
South Highlands Infirmary, Birmingham

50 to 100 beds

*Alabama Baptist Hospital, Selma
Children's Hospital, Birmingham
*Frazier Hospital, Dotham
John A. Andrew Memorial Hospital, Tuskegee
Vaughan Memorial Hospital, Selma
Walker County Hospital, Jasper

35 to 50 beds

*Sylacauga Infirmary, Sylacauga

ARIZONA

100 or more beds

Arizona Deaconess Hospital, Phoenix
St. Joseph's Hospital, Phoenix

50 to 100 beds

*Arizona Hospital and Sanatorium, Tucson
*St. Mary's Hospital and Sanitarium, Tucson

35 to 50 beds

Miami Inspiration Hospital, Miami

ARKANSAS

100 or more beds

Logan H. Roots City Memorial Hospital, Little Rock
St. Bernard's Hospital, Jonesboro
St. Louis Southwestern R. R. Hospital, Texarkana
St. Vincent's Infirmary, Little Rock
Sparks Memorial Hospital, Fort Smith

50 to 100 beds

Baptist Hospital, Little Rock
Fayetteville City Hospital, Fayetteville
Leo N. Levi Memorial Hospital, Hot Springs
Michael Meager Memorial Hospital, Texarkana
*St. John's Hospital, Fort Smith
St. Luke's Hospital and Annex, Little Rock

35 to 50 beds

*Helena Hospital, Helena

CALIFORNIA

100 or more beds

Alameda County Hospital, San Leandro
*Angelus Hospital Association, Los Angeles
California Lutheran Hospital, Los Angeles
Children's Hospital, Los Angeles
Fabiola Hospital, Oakland
*Franklin Hospital, San Francisco
French Hospital, San Francisco
General Hospital, Fresno
General Hospital, Santa Barbara
*Glendale Sanitarium and Hospital, Glendale
Golden State Hospital, Los Angeles
Hahnemann Hospital, San Francisco
Hollywood Hospital, Hollywood
Hospital for Children, San Francisco
Hospital of the Good Samaritan, Los Angeles
Kern General Hospital, Bakersfield
Loma Linda Sanitarium and Hospital, Loma Linda
Los Angeles General Hospital, Los Angeles
Mary's Help Hospital, San Francisco
Methodist Hospital, Los Angeles
Mt. Zion Hospital, San Francisco
O'Connor Sanitarium, San Jose
*Orange County Hospital, Orange
Paradise Valley Hospital, National City
Pasadena Hospital, Pasadena
Providence Hospital, Oakland
Sacramento Hospital, Sacramento
*St. Francis Hospital, San Francisco
*St. Francis Hospital, Santa Barbara
St. Helen's Sanitarium, Sanitarium
St. Joseph's Hospital, San Diego
St. Joseph's Hospital, San Francisco
St. Luke's Hospital, San Francisco
St. Mary's Hospital, San Francisco
St. Vincent's Hospital, Los Angeles
Samuel Merritt Hospital, Oakland
San Bernardino County Hospital, San Bernardino
San Diego County Hospital, San Diego
San Francisco Hospital, San Francisco
San Joaquin General Hospital, French Camp
Santa Barbara Cottage Hospital, Santa Barbara
Santa Clara County Hospital, San Jose
Santa Fe Coast Lines Hospital, Los Angeles
Seaside Hospital, Long Beach
Southern Pacific Hospital, San Francisco
Stanford University and Lane Hospitals, San Francisco
University of California Hospital, San Francisco
White Memorial Hospital, Los Angeles

50 to 100 beds

Clara Barton Hospital, Los Angeles
Community Hospital, San Mateo
Kaspere Cohn Hospital, Los Angeles
Mercy Hospital, Bakersfield
*Mills Memorial Hospital, San Mateo
Murphy Memorial Hospital, Whittier
Orthopaedic Hospital, Los Angeles
Ramona and Sequoia Hospitals, San Bernardino
Shriners Orthopaedic Hospital, San Francisco
St. Mary's Long Beach Hospital, Long Beach
University Infirmary, Berkeley
Woodland Sanitarium, Woodland

35 to 50 beds

Baby's Hospital, Oakland
*Palo Alto Hospital, Palo Alto

COLORADO

100 or more beds

Beth-El Hospital, Colorado Springs
 Boulder-Colorado Sanitarium, Boulder
 Children's Hospital, Denver
 Denver General Hospital, Denver
 Glockner General Hospital, Colorado Springs
 Mercy Hospital, Denver
 Minnequa Hospital, Pueblo
 St. Anthony's Hospital, Denver
 St. Francis Hospital, Colorado Springs
 St. Joseph's Hospital, Denver
 St. Luke's Hospital, Denver
 St. Mary's Hospital, Pueblo

50 to 100 beds

Beth Israel Hospital, Denver
 Community Hospital, Boulder
 Denver and Rio Grande Western R. R. Hospital, Salida
 *Red Cross Hospital, Salida

35 to 50 beds

Atchison, Topeka, and Santa Fe R. R. Hospital, La Junta
 Parkview Hospital, Pueblo

CONNECTICUT

100 or more beds

Bridgeport Hospital, Bridgeport
 Danbury Hospital, Danbury
 Grace Hospital, New Haven
 Greenwich Hospital, Greenwich
 Hartford Hospital, Hartford
 Hospital of St. Raphael, New Haven
 Lawrence and Memorial Associated Hospitals, New London
 Meriden Hospital, Meriden
 Middlesex Hospital, Middleton
 New Britain Hospital, New Britain
 New Haven Hospital, New Haven
 St. Francis Hospital, Hartford
 St. Mary's Hospital, Waterbury
 St. Vincent's Hospital, Bridgeport
 Stamford Hospital, Stamford
 Waterbury Hospital, Waterbury

50 to 100 beds

*Charlotte Hungerford Hospital, Torrington
 Manchester Memorial Hospital, South Manchester
 Mt. Sinai Hospital, Hartford
 *Municipal Hospital, Hartford

DELAWARE

100 or more beds

Delaware Hospital, Wilmington

50 to 100 beds

Homeopathic Hospital, Wilmington

DISTRICT OF COLUMBIA

100 or more beds

Central Dispensary and Emergency Hospital, Washington
 Children's Hospital, Washington
 Columbia Hospital for Women, Washington
 Episcopal Eye, Ear, Nose and Throat Hospital, Washington
 Freedman's Hospital, Washington
 *Gallinger Municipal Hospital, Washington
 Garfield Memorial Hospital, Washington

George Washington University Hospital, Washington
 Georgetown University Hospital, Washington
 Providence Hospital, Washington
 Washington Sanitarium, Washington

FLORIDA

100 or more beds

Duval County Hospital, Jacksonville
 Miami City Hospital, Miami
 St. Luke's Hospital, Jacksonville
 St. Vincent's Hospital, Jacksonville

50 to 100 beds

*East Coast Hospital, St. Augustine
 Faith Hospital, St. Petersburg
 Gordon Keller Memorial Hospital, Tampa

35 to 50 beds

Bayside Hospital, Tampa
 Riverside Hospital, Jacksonville

GEORGIA

100 or more beds

Davis-Fischer Hospital, Atlanta
 Georgia Baptist Hospital, Atlanta
 Grady Memorial Hospital, Atlanta
 Harbin Hospital, Rome
 Piedmont Sanitarium, Atlanta
 *Rawlings Sanitarium, Sandersville
 St. Joseph's Infirmary, Atlanta
 University Hospital, Augusta
 Wesley Memorial Hospital, Atlanta

50 to 100 beds

Athens General Hospital, Athens
 Atlantic Coast Lines Hospital, Waycross
 Downey Hospital, Gainesville
 *Dunson Hospital, LaGrange
 Scottish Rite Hospital, Decatur
 Thomasville City Hospital, Thomasville
 *Wilhenford Hospital, Augusta
 Wise Sanitarium, Plains

IDAHO

100 or more beds

St. Alphonsus Hospital, Boise

50 to 100 beds

Latter-Day Saints Hospital, Idaho Falls
 Pocatello General Hospital, Pocatello
 Providence Hospital, Wallace
 St. Anthony's Hospital, Pocatello
 St. Joseph's Hospital, Lewiston
 St. Luke's Hospital, Boise

ILLINOIS

100 or more beds

Augustana Hospital, Chicago
 Chicago Lying-in Hospital, Chicago
 Chicago Memorial Hospital, Chicago
 Children's Memorial Hospital, Chicago
 Columbus Hospital, Chicago
 Cook County Hospital, Chicago
 Decatur and Macon County Hospital, Decatur
 *Emergency Hospital, Kankakee
 Evanston Hospital, Evanston
 Frances E. Willard Hospital, Chicago
 Garfield Park Hospital, Chicago

Grant Hospital, Chicago
 *Hinsdale Sanitarium, Hinsdale
 Hospital of St. Anthony de Padua, Chicago
 Illinois Central Hospital, Chicago
 Illinois Eye and Ear Infirmary, Chicago
 John B. Murphy Hospital, Chicago
 Lake View Hospital, Danville
 Lutheran Deaconess Hospital, Chicago
 Lutheran Memorial Hospital, Chicago
 Mercy Hospital, Chicago
 Michael Reese Hospital, Chicago
 Misericordia Hospital, Chicago
 Mt. Sinai Hospital, Chicago
 Oak Park Hospital, Oak Park
 Presbyterian Hospital, Chicago
 Ravenswood Hospital, Chicago
 Rockford Hospital, Rockford
 St. Anne's Hospital, Chicago
 *St. Anthony's Hospital, Rock Island
 St. Bernard's Hospital, Chicago
 St. Elizabeth's Hospital, Chicago
 *St. Elizabeth's Hospital, Danville
 St. Francis Hospital, Blue Island
 St. Francis Hospital, Evanston
 St. Francis Hospital, Peoria
 St. Joseph's Hospital, Chicago
 St. Joseph's Hospital, Joliet
 St. Luke's Hospital, Chicago
 *St. Mary's Hospital, Cairo
 St. Mary's Hospital, East St. Louis
 St. Mary's Hospital, Quincy
 St. Mary of Nazareth Hospital, Chicago
 Silver Cross Hospital, Joliet
 South Shore Hospital, Chicago
 Swedish Covenant Hospital, Chicago
 University Hospital, Chicago
 Wesley Memorial Hospital, Chicago

50 to 100 beds

Blessing Hospital, Quincy
 Highland Park Hospital, Highland Park
 Huber Memorial Hospital, Pana
 Illinois Masonic Hospital, Chicago
 Ingalls Memorial Hospital, Harvey
 Kewanee Public Hospital, Kewanee
 Lake View Hospital, Chicago
 *Lutheran Hospital, Moline
 *Moline Public Hospital, Moline
 North Chicago Hospital, Chicago
 Olney Sanitarium, Olney
 Our Savior's Hospital, Jacksonville
 *Passavant Memorial Hospital, Chicago
 Passavant Memorial Hospital, Jacksonville
 *Post-Graduate Hospital, Chicago
 *Provident Hospital, Chicago
 St. Andrew's Hospital, Murphysboro
 *St. Francis Hospital, Freeport
 *St. Francis Hospital, Kewanee
 Washington Boulevard Hospital, Chicago

35 to 50 beds

Streeter Hospital, Chicago

INDIANA

100 or more beds

Fort Wayne Lutheran Hospital, Fort Wayne
 Gary Hospital, Gary
 Indianapolis City Hospital, Indianapolis
 *Methodist Episcopal Hospital, Indianapolis
 *Methodist Hospital, Gary

Protestant Deaconess Hospital, Evansville
 Robert W. Long Hospital, Indianapolis
 St. Anthony's Hospital, Terre Haute
 St. Edward's Hospital, New Albany
 St. Elizabeth's Hospital, LaFayette
 St. Joseph's Hospital, Ft. Wayne
 *St. Joseph's Hospital, Mishawaka
 St. Joseph's Hospital, South Bend
 St. Margaret's Hospital, Hammond
 St. Mary's Hospital, Evansville
 St. Mary's Mercy Hospital, Gary
 St. Vincent's Hospital, Indianapolis
 Union Hospital, Terre Haute

50 to 100 beds

Epworth Hospital, South Bend
 Grant County Hospital, Marion
 Holy Family Hospital, LaPorte
 LaFayette Home Hospital, LaFayette
 Muncie Home Hospital, Muncie
 Reid Memorial Hospital, Richmond
 St. John's Hospital, Anderson
 *St. Joseph's Hospital, Logansport
 *Wabash Valley Sanitarium and Hospital, LaFayette
 Walker Hospital, Evansville

35 to 50 beds

*Hayden Hospital, Evansville

IOWA

100 or more beds

Finley Hospital, Dubuque
 Iowa Lutheran Hospital, Des Moines
 Iowa Methodist Hospital, Des Moines
 Jennie Edmundson Hospital, Council Bluffs
 Mercy Hospital, Cedar Rapids
 Mercy Hospital, Council Bluffs
 Mercy Hospital, Davenport
 *Mercy Hospital, Des Moines
 *Mercy Hospital, Iowa City
 St. Joseph's Hospital, Dubuque
 St. Joseph's Mercy Hospital, Sioux City
 St. Vincent's Hospital, Sioux City
 University Hospital, Iowa City

50 to 100 beds

Des Moines City Hospital, Des Moines
 Iowa Congregational Hospital, Des Moines
 Iowa State College Hospital, Ames
 *Jane Lamb Memorial Hospital, Clinton
 *Lutheran Hospital, Sioux City
 Methodist Hospital, Sioux City
 *Ottumwa Hospital, Ottumwa
 Park Hospital, Mason City
 St. Francis Hospital, Waterloo
 *St. Joseph's Hospital, Keokuk
 St. Joseph's Mercy Hospital, Clinton
 St. Joseph's Mercy Hospital, Ft. Dodge
 St. Joseph's Mercy Hospital, Mason City
 St. Joseph's Mercy Hospital, Waverly
 St. Luke's Hospital, Cedar Rapids

35 to 50 beds

*Davenport Hospital, Davenport

KANSAS

100 or more beds

Bethany Methodist Hospital, Kansas City
 St. Francis Hospital, Wichita

St. Margaret's Hospital, Kansas City
 Santa Fe Hospital, Topeka
 Wesley Hospital, Wichita
 *Wichita Hospital, Wichita

50 to 100 beds

Axtell Hospital, Newton
 Bell Memorial Hospital, Kansas City
 Bethel Deaconess Hospital, Newton
 Christ Hospital, Topeka
 Grace Hospital, Hutchinson
 Halstead Hospital, Halstead
 Jane C. Stormont Hospital, Topeka
 *Missouri, Kansas and Texas R. R. Hospital, Parsons
 Mount Carmel Hospital, Pittsburg
 Providence Hospital, Kansas City
 St. Anthony's Hospital, Hays
 St. Anthony's Murdock Memorial Hospital, Sabetha
 St. Elizabeth's Hospital, Hutchinson
 St. Francis Hospital, Topeka
 St. John's Hospital, Salina
 St. Joseph's Hospital, Concordia
 *St. Mary's Hospital, Winfield
 St. Rose's Hospital, Great Bend

35 to 50 beds

Hatcher Hospital, Wellington
 St. Luke's Hospital, El Dorado

KENTUCKY

100 or more beds

Baptist Hospital, Louisville
 Good Samaritan Hospital, Lexington
 Louisville City Hospital, Louisville
 Norton Memorial Hospital, Louisville
 St. Anthony's Hospital, Louisville
 St. Elizabeth's Hospital, Covington
 St. Joseph's Hospital, Lexington
 St. Joseph's Infirmary, Louisville
 Sts. Elizabeth and Mary Hospital, Louisville

50 to 100 beds

*Ashland General Hospital, Ashland
 *Booth Memorial Hospital, Covington
 Children's Free Hospital, Louisville
 *Jewish Hospital, Louisville
 Illinois Central Hospital, Paducah
 *King's Daughters Hospital, Ashland
 Methodist Episcopal Hospital, Louisville
 Speers Memorial Hospital, Dayton
 Wm. Mason Memorial Hospital, Murray

35 to 50 beds

Robinson Hospital, Berea

LOUISIANA

100 or more beds

Charity Hospital, New Orleans
 *Charity Hospital, Shreveport
 Hotel Dieu, New Orleans
 *Presbyterian Hospital, New Orleans
 St. Francis Sanitarium, Monroe
 T. E. Schumpert Memorial Hospital, Shreveport
 Touro Infirmary, New Orleans

50 to 100 beds

*Baptist Hospital, Alexandria
 Eye, Ear, Nose, and Throat Hospital, New Orleans
 Flint-Goodridge Hospital, New Orleans

Highland Sanitarium, Shreveport
 Illinois Central R. R. Hospital, New Orleans
 North Louisiana Sanitarium, Shreveport
 St. Patrick's Sanitarium, Lake Charles
 Shriners' Hospital for Crippled Children, Shreveport

35 to 50 beds

*New Orleans Dispensary for Women and Children, New Orleans

MAINE

100 or more beds

Central Maine General Hospital, Lewiston
 Eastern Maine General Hospital, Bangor
 *Maine Eye and Ear Infirmary, Portland
 Maine General Hospital, Portland
 St. Mary's General Hospital, Lewiston

50 to 100 beds

Bath City Hospital, Bath
 Children's Hospital, Portland
 *St. Barnabas Hospital, Portland
 *State Street Hospital, Portland

MARYLAND

100 or more beds

Allegany Hospital, Cumberland
 Bay View City Hospital, Baltimore
 Church Home and Infirmary, Baltimore
 Colonial Hospital, Baltimore
 *Franklin Square Hospital, Baltimore
 Hebrew Hospital and Asylum, Baltimore
 Hospital for Women of Maryland, Baltimore
 Johns Hopkins Hospital, Baltimore
 Maryland General Hospital, Baltimore
 Mercy Hospital, Baltimore
 *Peninsula General Hospital, Salisbury
 St. Agnes Hospital, Baltimore
 St. Joseph's Hospital, Baltimore
 Union Memorial Hospital, Baltimore
 University Hospital, Baltimore

50 to 100 beds

*Cambridge-Maryland Hospital, Cambridge
 Children's Hospital School, Baltimore
 Emergency Hospital, Easton
 Frederick City Hospital, Frederick
 *James Lawrence Kerman Hospital, Baltimore
 South Baltimore Hospital, Baltimore
 Western Maryland Hospital, Cumberland

35 to 50 beds

Howard A. Kelley Hospital, Baltimore
 Volunteers of America Hospital, Baltimore

MASSACHUSETTS

100 or more beds

Beverly Hospital, Beverly
 Boston City Hospital, Boston
 Boston Lying-in Hospital, Boston
 Brockton Hospital, Brockton
 Burbank Hospital, Fitchburg
 Cambridge City Hospital, Cambridge
 Cambridge Hospital, Cambridge
 Carney Hospital, Boston
 Children's Hospital, Boston
 City Hospital, Fall River
 Cooley-Dickinson Hospital, Northampton
 Free Hospital for Women, Boston

Gale Hospital, Haverhill
 Henry Heywood Memorial Hospital, Gardiner
 Holyoke City Hospital, Holyoke
 House of Mercy Hospital, Pittsfield
 Lawrence General Hospital, Lawrence
 Long Island Hospital, Boston
 Lowell Corporation Hospital, Lowell
 Lowell General Hospital, Lowell
 Lynn Hospital, Lynn
 Malden Hospital, Malden
 Massachusetts Charitable Eye and Ear Hospital, Boston
 Massachusetts General Hospital, Boston
 Massachusetts Homeopathic Hospital, Boston
 Memorial Hospital, Worcester
 Mercy Hospital, Springfield
 New England Deaconess Hospital, Boston
 New England Hospital for Women and Children, Boston
 Newton Hospital, Newton Lower Falls
 Noble Hospital, Westfield
 Peter Bent Brigham Hospital, Boston
 Providence Hospital, Holyoke
 Robert Breck Brigham Hospital, Boston
 St. Elizabeth's Hospital, Boston
 St. John's Hospital, Lowell
 St. Luke's Hospital, Bedford
 St. Vincent's Hospital, Worcester
 Salem Hospital, Salem
 Springfield Hospital, Springfield
 Truesdale Hospital, Fall River
 Union Hospital, Fall River
 Waltham Hospital, Waltham
 Worcester City Hospital, Worcester

50 to 100 beds

Anna Jaques Hospital, Newburyport
 Beth Israel Hospital, Boston
 Charles Choate Memorial Hospital, Woburn
 *Chelsea Memorial Hospital, Chelsea
 *City Hospital, Quincy
 Clinton Hospital, Clinton
 *Emerson Hospital, Boston
 Farren Memorial Hospital, Montague City
 Faulkner Hospital, Boston
 Goddard Hospital, Brockton
 *Hale Hospital, Haverhill
 *Hart Private Hospital, Roxbury
 House of the Good Samaritan, Boston
 Infant's Hospital, Boston
 *Josiah B. Thomas Hospital, Peabody
 Melrose Hospital, Melrose
 North Adams Hospital, North Adams
 Somerville Hospital, Somerville
 *Sturdy Memorial Hospital, Attleboro
 *Symmes Arlington Hospital, Arlington
 Wesson Maternity Hospital, Springfield

MICHIGAN

100 or more beds

Battle Creek Sanitarium, Battle Creek
 Blodgett Memorial Hospital, Grand Rapids
 Butterworth Hospital, Grand Rapids
 Children's Free Hospital, Detroit
 Detroit Receiving Hospital, Detroit
 Evangelical Deaconess Hospital, Detroit
 Grace Hospital, Detroit
 Edward W. Sparrow Hospital, Lansing
 Harper Hospital, Detroit
 Hackley Hospital, Muskegon
 Henry Ford Hospital, Detroit
 Highland Park General Hospital, Highland Park

House of Providence, Detroit
 Hurley Hospital, Flint
 Mercy Hospital, Bay City
 Mercy Hospital, Muskegon
 New Borgess Hospital, Kalamazoo
 Nichol's Memorial Hospital, Battle Creek
 Old Borgess Hospital, Kalamazoo
 St. Joseph's Hospital, Ann Arbor
 St. Mary's Hospital, Grand Rapids
 St. Mary's Hospital, Detroit
 Saginaw General Hospital, Saginaw
 University Hospital, Ann Arbor
 W. A. Foot Memorial Hospital, Jackson
 Women's Hospital and Infants' Home, Detroit

50 to 100 beds

Bronson Hospital, Kalamazoo
 Delray Industrial Hospital, Detroit
 Detroit Eye and Ear Hospital, Detroit
 James W. Sheldon Hospital, Albion
 Jefferson Clinic Hospital, Detroit
 Memorial Hospital, Owosso
 *Mercy Hospital, Cadillac
 Mercy Hospital, Jackson
 *St. Francis Hospital, Escanaba
 St. Joseph's Hospital, Hancok
 St. Joseph's Hospital, Detroit
 St. Joseph's Hospital, Mt. Clemens
 *St. Mary's Hospital, Marquette
 St. Mary's Hospital, Saginaw
 Woman's Hospital, Saginaw

35 to 50 beds

Ishpeming Hospital, Ishpeming

MINNESOTA

100 or more beds

Abbott Hospital, Minneapolis
 Ancker Hospital, St. Paul
 Asbury Hospital, Minneapolis
 Bethesda Hospital, St. Paul
 Charles T. Miller Hospital, St. Paul
 Colonial Hospital, Rochester
 Deaconess Hospital, Minneapolis
 Eitel Hospital, Minneapolis
 Fairview Hospital, Minneapolis
 Kahler Hospital, Rochester
 Minneapolis General Hospital, Minneapolis
 Minnesota State Hospital for Indigent Children, St. Paul
 Mounds Park Sanitarium, St. Paul
 Northern Pacific Beneficial Association Hospital, St. Paul
 *Northwestern Hospital, Minneapolis
 St. Barnabas Hospital, Minneapolis
 St. Joseph's Hospital, St. Paul
 St. Luke's Hospital, Duluth
 St. Luke's Hospital, St. Paul
 St. Mary's Hospital, Duluth
 St. Mary's Hospital, Minneapolis
 St. Mary's Hospital, Rochester
 St. Paul Hospital, St. Paul
 Swedish Hospital, Minneapolis
 University of Minnesota Hospital, Minneapolis
 Worrell Hospital, Rochester

50 to 100 beds

Hill Crest Surgical Hospital, Minneapolis
 *Immanuel Hospital, Mankato
 *St. Gabriel's Hospital, Little Falls
 St. John's Hospital, St. Paul
 St. Joseph's Hospital, Brainerd

St. Joseph's Hospital, Mankato
 St. Luke's Hospital, Fergus Falls
 St. Raphael's Hospital, St. Cloud
 Shriners Hospital for Crippled Children, Minneapolis
 Warren General Hospital, Warren
 Winona General Hospital, Winona

35 to 50 beds

Morgan Park Hospital, Duluth

MISSISSIPPI

100 or more beds

Kings Daughters Hospital, Gulfport
 Matty Hersee Hospital, Meridian
 Mississippi State Charity Hospital, Jackson
 South Mississippi Charity Hospital, Laurel

50 to 100 beds

Jackson Infirmary, Jackson
 Kings Daughters Hospital, (white) Greenville
 Mississippi Baptist Hospital, Jackson
 Vicksburg Infirmary, Vicksburg

35 to 50 beds

Dr. Hairston's Hospital, Meridian
 J. Z. George Memorial Hospital, A. and M. College
 Houston Hospital, Houston
 South Mississippi General Hospital, Hattiesburg
 Tupelo Hospital, Tupelo
 Winona Infirmary, Winona

MISSOURI

100 or more beds

Alexian Brothers Hospital, St. Louis
 Barnes Hospital, St. Louis
 Bethesda Hospital, St. Louis
 Children's Hospital, Kansas City
 Christian Church Hospital, Kansas City
 *Evangelical Deaconess Home and Hospital, St. Louis
 Grace Hospital, Kansas City
 Frisco Employees Hospital, St. Louis
 Jewish Hospital, St. Louis
 Kansas City General Hospital, Kansas City
 Lutheran Hospital, St. Louis
 Methodist Hospital, St. Joseph
 Missouri Baptist Sanitarium, St. Louis
 Missouri Pacific R. R. Hospital, St. Louis
 Old General Hospital, Kansas City
 Research Hospital, Kansas City
 St. Anthony's Hospital, St. Louis
 St. John's Hospital, St. Louis
 St. Joseph's Hospital, St. Joseph
 St. Joseph's Hospital, Kansas City
 St. Louis Children's Hospital, St. Louis
 St. Louis City Hospital, St. Louis
 St. Louis City Hospital, No. 2, St. Louis
 St. Louis Mullanphy Hospital, St. Louis
 St. Luke's Hospital, Kansas City
 St. Luke's Hospital, St. Louis
 St. Mary's Infirmary, St. Louis
 St. Mary's Hospital, Kansas City

50 to 100 beds

Boone County Hospital, Columbia
 Frisco Employees Hospital, Springfield
 Independence Sanitarium, Independence
 Noyes Hospital, St. Joseph
 Parker Memorial Hospital, Columbia
 St. Francis Hospital, Cape Girardeau

St. Francis Hospital, Maryville
 St. John's Hospital, Joplin
 St. Louis Baptist Hospital, St. Louis
 St. Mary's Hospital, Jefferson City
 *Trinity Lutheran Hospital, Kansas City

35 to 50 beds

Barnard Free Skin and Cancer Hospital, St. Louis
 St. Louis Maternity Hospital, St. Louis
 Wheatley Provident Hospital, Kansas City

MONTANA

100 or more beds

Columbus Hospital, Great Falls
 Holy Rosary Hospital, Miles City
 Montana Deaconess Hospital, Great Falls
 Murray Hospital, Butte
 St. James Hospital, Butte
 St. Patrick's Hospital, Missoula
 St. Vincent's Hospital, Billings

50 to 100 beds

*Northern Pacific Beneficial Association Hospital, Glendive
 Northern Pacific Beneficial Association Hospital, Missoula
 St. Ann's Hospital, Anaconda
 *St. John's Hospital, Helena
 St. Joseph's Hospital, Lewistown

NEBRASKA

100 or more beds

Bishop Clarkson Memorial Hospital, Omaha
 Nebraska Methodist Episcopal Hospital, Omaha
 Nebraska Orthopedic Hospital, Lincoln
 St. Elizabeth's Hospital, Lincoln
 St. Francis Hospital, Grand Island
 St. Joseph's Hospital, Omaha
 St. Mary's Hospital, Columbus
 University of Nebraska Hospital, Omaha

50 to 100 beds

Immanuel Hospital, Omaha
 *St. Joseph's Hospital, Alliance
 Swedish Mission Hospital, Omaha
 Wise Memorial Hospital, Omaha

NEVADA

50 to 100 beds

Elko General Hospital, Elko
 St. Mary's Hospital, Reno

35 to 50 beds

Stephoe Valley Hospital, East Ely

NEW HAMPSHIRE

100 or more beds

St. Joseph's Hospital, Nashua

50 to 100 beds

*Claremont Hospital, Claremont
 Elliott Community Hospital, Keene
 Elliott Hospital, Manchester
 *Laconia Hospital, Laconia
 *Margaret Pillsbury General Hospital, Concord
 Mary Hitchcock Memorial Hospital, Hanover
 Nashua Memorial Hospital, Nashua
 Notre Dame Hospital, Manchester
 *Portsmouth Hospital, Portsmouth
 Sacred Heart Hospital, Manchester

NEW JERSEY

100 or more beds

Alexian Brothers Hospital, Elizabeth
 All Souls' Hospital, Morristown
 Atlantic City Hospital, Atlantic City
 Bayonne Hospital and Dispensary, Bayonne
 Christ Hospital, Jersey City
 Cooper Hospital, Camden
 Elizabeth General Hospital, Elizabeth
 Englewood Hospital, Englewood
 Hackensack Hospital, Hackensack
 Jersey City Hospital, Jersey City
 Mercer Hospital, Trenton
 Monmouth Memorial Hospital, Long Branch
 Morristown Memorial Hospital, Morristown
 Mountainside Hospital, Montclair
 Muhlenberg Hospital, Plainfield
 Newark Beth Israel Hospital, Newark
 Newark City Hospital, Newark
 Newark Memorial Hospital, Newark
 Newark Presbyterian Hospital, Newark
 Orange Memorial Hospital, Newark
 *Passaic General Hospital, Passaic
 Paterson General Hospital, Paterson
 Perth Amboy City Hospital, Perth Amboy
 St. Barnabas Hospital, Newark
 St. Elizabeth's Hospital, Elizabeth
 St. Francis Hospital, Jersey City
 St. Francis Hospital, Trenton
 St. James Hospital, Newark
 St. Joseph's Hospital, Paterson
 *St. Gerard's Italian Hospital, Newark
 St. Mary's Hospital, Hoboken
 St. Mary's Hospital, Orange
 St. Mary's Hospital, Passaic
 St. Michael's Hospital, Newark
 St. Peter's General Hospital, New Brunswick
 *West Jersey Homeopathic Hospital, Camden

50 to 100 beds

Ann May Memorial Hospital, Spring Lake
 Homeopathic Hospital, Newark
 *Hospital for Women and Children, Newark
 Mariam and Nathan Barnert Memorial Hospital, Paterson
 Middlesex General Hospital, New Brunswick
 *Newcomb Hospital, Vineland
 Newark Eye and Ear Infirmary, Newark
 North Hudson Hospital, Weehawken
 *Overlook Hospital, Summitt
 William McKinley Memorial Hospital, Trenton

35 to 50 beds

*Burlington County Hospital, Mt. Holly

NEW MEXICO

50 to 100 beds

St. Joseph's Hospital, Albuquerque
 *St. Mary's Hospital, Gallup
 *St. Mary's Hospital, Roswell
 St. Vincent's Hospital, Santa Fe

NEW YORK

100 or more beds

Albany Hospital, Albany
 *Arnot-Ogden Memorial Hospital, Elmira
 Auburn City Hospital, Auburn

Bellevue Hospital, New York City
 Beth David Hospital, New York City
 Beth Israel Hospital, New York City
 Beth Moses Hospital, Brooklyn
 Binghamton Hospital, Binghamton
 Broad Street Hospital, New York City
 Bronx Hospital, New York City
 Brooklyn Hospital, Brooklyn
 Brownsville and East New York Hospital, Brooklyn
 Buffalo City Hospital, Buffalo
 Buffalo General Hospital, Buffalo
 Buffalo Hospital of Sisters of Charity, Buffalo
 Bushwick Hospital, Brooklyn
 Carson C. Peck Memorial Hospital, Brooklyn
 Children's Hospital, Buffalo
 Columbus Extension Hospital, New York City
 Community Hospital, New York City
 Coney Island Hospital, Brooklyn
 *Crouse-Irving Hospital, Syracuse
 Cumberland Street Hospital, Brooklyn
 Deaconess Home and Hospital, Buffalo
 Ellis Hospital, Schenectady
 Faxton Hospital, Utica
 Fifth Avenue Hospital, New York City
 Flower Hospital, New York City
 Flushing Hospital and Dispensary, Flushing
 Fordham Hospital, New York City
 French Benevolent Society Hospital, New York City
 Gouverneur Hospital, New York City
 Grasslands Hospital, Valhalla
 Greenpoint Hospital, Brooklyn
 Harlem Hospital, New York City
 Highland Hospital, Rochester
 Hospital of the Good Shepherd, Syracuse
 Holy Family Hospital, Brooklyn
 House of Good Samaritan, Watertown
 Hospital for Deformities and Joint Diseases, New York City
 *Ithaca City Hospital, Ithaca
 Jewish Hospital, Brooklyn
 Jewish Maternity Hospital, New York City
 *Jewish Memorial Hospital, New York City
 King's County Hospital, Brooklyn
 Knickerbocker Hospital, New York City
 *Lawrence Hospital, Bronxville
 Lebanon Hospital, New York City
 Lenox Hill Hospital, New York City
 Lincoln Hospital, New York City
 Long Island College Hospital, Brooklyn
 *Lutheran Hospital of Manhattan, New York City
 Manhattan Eye and Ear Hospital, New York City
 Mary Imogene Bassett Hospital, Cooperstown
 Memorial Hospital for Cancer and Allied Diseases, New York City
 Memorial Hospital, Albany
 Methodist Episcopal Hospital, Brooklyn
 Metropolitan Hospital, New York City
 *Millard Fillmore Hospital, Buffalo
 Misericordia Hospital, New York City
 Mt. St. Mary's Hospital, Niagara Falls
 Mt. Sinai Hospital, New York City
 Mt. Vernon Hospital, Mt. Vernon
 Montefiore Hospital, New York City
 Nassau Hospital, Mineola, Long Island
 New Rochelle Hospital, New Rochelle
 New York City Hospital, Blackwell's Island, New York City
 New York Eye and Ear Infirmary, New York City
 New York Foundling Home, New York City
 New York Hospital, New York City

- New York Infirmary for Women and Children, New York City
 New York Nursery and Children's Hospital, New York City
 New York Orthopedic Hospital, New York City
 New York Orthopedic Hospital for Children, West Haverstraw
 *New York Polyclinic Hospital, New York City
 New York Post Graduate Hospital, New York City
 New York Hospital for Ruptured and Crippled, New York City
 New York Skin and Cancer Hospital, New York City
 Niagara Falls Memorial Hospital, Niagara Falls
 Norwegian Lutheran Deaconess Hospital, Brooklyn
 Olean General Hospital, Olean
 Oneida County Hospital, Rome
 Park Avenue Clinical Hospital, Rochester
 Presbyterian Hospital, New York City
 Prospect Heights Hospital, New York City
 Rochester General Hospital, Rochester
 Rochester Homeopathic Hospital, Rochester
 Rockaway Beach Hospital and Dispensary, Rockaway Beach
 Roosevelt Hospital, New York City
 *Sailors Snug Harbor Hospital, New Brighton
 St. Catherine's Hospital, Brooklyn
 St. Elizabeth's Hospital and Home, Utica
 St. Francis Hospital, New York City
 St. John's Brooklyn Hospital, Brooklyn
 St. John's Hospital, Long Island
 St. John's Riverside Hospital, Yonkers
 *St. Joseph's Hospital, Syracuse
 St. Luke's Hospital, New York City
 *St. Luke's Hospital, Newburgh
 *St. Luke's Hospital, Utica
 St. Mark's Hospital, New York City
 *St. Mary's Maternity Hospital, Buffalo
 St. Mary's Free Hospital for Children, New York City
 St. Mary's Hospital, Brooklyn
 St. Mary's Hospital, Rochester
 St. Peter's Hospital, Albany
 St. Peter's Hospital, Brooklyn
 St. Vincent's Hospital, New York City
 Samaritan Hospital, Troy
 Saratoga Hospital, Saratoga Springs
 Sloane Hospital for Women, New York City
 Soldiers and Sailors Memorial Hospital, Utica
 Staten Island Hospital, Tompkinsville
 Syracuse Memorial Hospital, Syracuse
 The Sanitarium, Clifton Springs
 Troy Hospital, Troy
 United Hospital, Port Chester
 United Israel Zion Hospital, Brooklyn
 Vassar Brothers Hospital, Poughkeepsie
 *White Plains Hospital, White Plains
 Woman's Hospital, New York City
 Wyckoff Heights Hospital, Brooklyn
 Yonkers Homeopathic Hospital and Maternity Home, Yonkers
- 50 to 100 beds*
- *Alice Hyde Memorial Hospital, Malone
 Amsterdam City Hospital, Amsterdam
 Anthony Brady Hospital, Albany
 *Aurelia Osborn Fox Memorial Hospital, Oneonta
 Babies Hospital, New York City
 Beekman Street Hospital, New York City
 *Bethesda Hospital, Hornell
 *Broad Street Hospital, Oneida
 *Brooklyn Eye and Ear Hospital, Brooklyn
- *Champlain Valley Hospital, Plattsburg
 City Hospital, Kingston
 Columbus Hospital, New York City
 *Dobbs Ferry Hospital, Dobbs Ferry
 Emergency Hospital of Sisters of Charity, Buffalo
 General Hospital, Syracuse
 *Geneva City Hospital, Geneva
 Glens Falls Hospital, Glens Falls
 Harbor Hospital, Brooklyn
 Hudson City Hospital, Hudson
 *Italian Benevolent Hospital, New York City
 Jamaica Hospital, Jamaica
 *Leonard Hospital, Troy
 Manhattan Maternity Hospital, New York City
 Mary Immaculate Hospital, Jamaica
 Mary McClellan Hospital, Cambridge
 *Nathan Littauer Hospital, Gloversville
 Neurological Institute, New York City
 *New York Ophthalmic Hospital, New York City
 Ossining Hospital, Ossining
 Peoples Hospital, New York City
 Rockefeller Institute, New York City
 Reconstruction Hospital, New York City
 Rome Hospital, Rome
 St. Bartholomew's Hospital, New York City
 St. Joseph's Hospital, Yonkers
 *St. Mary's Hospital, Amsterdam
 St. Vincent's Hospital, West New Brighton
 Southampton Hospital, Southampton
 *Swedish Hospital, Brooklyn
 Utica Homeopathic Hospital, Utica
- 35 to 50 beds*
- Lexington Hospital, New York City
 *Southside Hospital, Bayshore
- NORTH CAROLINA
- 100 or more beds*
- *Asheville Mission Hospital, Asheville
 *James Walker Memorial Hospital, Wilmington
 Rex Hospital, Raleigh
 *St. Leo's Hospital, Greensboro
 Watts Hospital, Durham
- 50 to 100 beds*
- Atlantic Coast Lines R. R. Hospital, Rocky Mount
 City Hospital, Winston-Salem
 *French Broad Hospital, Asheville
 Highpoint Hospital, Highpoint
 Highsmith Hospital, Fayetteville
 Long's Sanitarium, Statesville
 Martin Memorial Hospital, Mt. Airy
 *Mercy General Hospital, Charlotte
 *Meriwether Hospital, Asheville
 North Carolina Orthopedic Hospital, Gastonia
 Parkview Hospital, Rocky Mount
 Pitt Community Hospital, Greenville
 Pittman Hospital, Fayetteville
 Rutherford Hospital, Rutherfordton
 *Salisbury Hospital, Salisbury
- 35 to 50 beds*
- *Biltmore Hospital, Biltmore
 Bullock Hospital, Wilmington
 Cumberland General Hospital, Fayetteville
 *Edgecomb General Hospital, Tarboro
 Lawrence Hospital, Winston-Salem
 *More Heiring Hospital, Wilson
 Parrott Memorial Hospital, Winston
 Richard Baker Hospital, Hickory
 Wesley Long Hospital, Greensboro

AMERICAN COLLEGE OF SURGEONS

NORTH DAKOTA

100 or more beds

Bismarck Evangelical Deaconess Hospital, Bismarck
 Grand Forks Deaconess Hospital, Grand Forks
 St. Alexius Hospital, Bismarck
 *St. John's Hospital, Fargo
 St. Luke's Hospital, Fargo

50 to 100 beds

*St. Joseph's Hospital, Minot
 St. Michael's Hospital, Grand Forks

OHIO

100 or more beds

Alliance Hospital, Alliance
 Aultman Hospital, Canton
 Bethesda Hospital, Cincinnati
 Bethesda Hospital, Zanesville
 Christ Hospital, Cincinnati
 Cincinnati General Hospital, Cincinnati
 City Hospital, Akron
 Cleveland City Hospital, Cleveland
 Cleveland Clinic Hospital, Cleveland
 *Cleveland Maternity Hospital, Cleveland
 *Glenville Hospital, Cleveland
 Good Samaritan Hospital, Cincinnati
 Good Samaritan Hospital, Zanesville
 Grant Hospital, Columbus
 Hawkes Hospital of Mt. Carmel, Columbus
 Huron Road Hospital, Cleveland
 Jewish Hospital, Cincinnati
 Lakeside Hospital, Cleveland
 Lucas County Hospital, Toledo
 Lutheran Hospital, Cleveland
 Massillon City Hospital, Massillon
 Mercy Hospital, Hamilton
 Mercy Hospital, Toledo
 Miami Valley Hospital, Dayton
 Mt. Sinai Hospital, Cleveland
 *Peoples Hospital, Akron
 St. Alexis Hospital, Cleveland
 *St. Ann's Infant Asylum and Maternity Hospital, Cleveland
 *St. Elizabeth's Hospital, Dayton
 St. Elizabeth's Hospital, Youngstown
 *St. Francis Hospital, Columbus
 St. John's Hospital, Cleveland
 *St. Joseph's Hospital, Lorain
 St. Luke's Hospital, Cleveland
 St. Mary's Hospital, Cincinnati
 St. Rita's Hospital, Lima
 St. Vincent's Hospital, Cleveland
 St. Vincent's Hospital, Toledo
 Springfield City Hospital, Springfield
 Starling-Loring University Hospital, Columbus
 Toledo Hospital, Toledo
 Youngstown Hospital, Youngstown
 White Cross Hospital, Columbus
 Woman's Hospital, Cleveland

50 to 100 beds

Bellaire City Hospital, Bellaire
 Children's Hospital, Cincinnati
 Children's Hospital, Columbus
 Deaconess Hospital, Cincinnati
 *Fairview Hospital, Cleveland
 Flower Hospital, Toledo
 Good Samaritan Hospital, Sandusky
 *Hospital Clinic Company, Cleveland

Lakewood Hospital, Lakewood
 Lima City Hospital, Lima
 Mansfield General Hospital, Mansfield
 Martin's Ferry Hospital, Martin's Ferry
 Mary Day Nursery and Children's Hospital, Akron
 Maternity and Children's Hospital, Toledo
 *Memorial Hospital, Fremont
 Mercy Hospital, Columbus
 Mercy Hospital, Canton
 *Middleton Hospital, Middleton
 Newark City Hospital, Newark
 *Ohio Valley Hospital, Steubenville
 Robinwood Hospital, Toledo
 Salem Hospital, Salem
 Schirman Hospital, Portsmouth
 Seton Hospital, Cincinnati
 Warren City Hospital, Warren

OKLAHOMA

100 or more beds

St. Anthony's Hospital, Oklahoma City
 State University Hospital, Oklahoma City

50 to 100 beds

*El Reno Sanitarium, El Reno
 *Morningside Hospital, Tulsa
 Wesley Hospital, Oklahoma City

35 to 50 beds

*Ponca City Hospital, Ponca City

OREGON

100 or more beds

Emanuel Hospital, Portland
 Good Samaritan Hospital, Portland
 Multnomah County Hospital, Portland
 Portland Sanitarium, Portland
 St. Vincent's Hospital, Portland

50 to 100 beds

Mercy Hospital, Eugene
 Portland Surgical Hospital, Portland
 Sacred Heart Hospital, Medford
 St. Mary's Hospital, Astoria

PENNSYLVANIA

100 or more beds

Abington Hospital, Abington
 Allegheny General Hospital, Pittsburgh
 Allentown Hospital, Allentown
 Altoona Hospital, Altoona
 Braddock General Hospital, Braddock
 Bryn Mawr Hospital, Bryn Mawr
 Chester County Hospital, West Chester
 Chester Hospital, Chester
 Chestnut Hill Hospital, Philadelphia
 Children's Homeopathic Hospital, Philadelphia
 Clearfield Hospital, Clearfield
 Columbia Hospital, Pittsburgh
 Conemaugh Valley Memorial Hospital, Johnstown
 Easton Hospital, Easton
 Elizabeth Steel Magee Hospital, Pittsburgh
 Frankford Hospital, Philadelphia
 George F. Geisinger Hospital, Danville
 Germantown Dispensary and Hospital, Philadelphia
 Hahnemann Hospital, Scranton
 Hahnemann Medical and Surgical Hospital, Philadelphia
 Hamot Hospital, Erie
 Harrisburg Hospital, Harrisburg

LIST OF HOSPITALS

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Hazleton State Hospital, Hazleton
Homeopathic Medical and Surgical Hospital, Pittsburgh
Hospital of the Protestant Episcopal Church, Philadelphia
Hospital of the University of Pennsylvania, Philadelphia
Hospital of the Women's Medical College, Philadelphia

J. Lewis Crozier Hospital, Chester
Jefferson Hospital, Philadelphia
*Jewish Hospital, Philadelphia
Lancaster General Hospital, Lancaster
Lankenau Hospital, Philadelphia
Medico Chirurgical Hospital, Philadelphia
Memorial Hospital, Roxborough
*Mercy Hospital, Altoona
Mercy Hospital, Johnstown
Mercy Hospital, Philadelphia
Mercy Hospital, Pittsburgh
Mercy Hospital, Wilkes-Barre
Methodist Episcopal Hospital, Philadelphia
Misericordia Hospital, Philadelphia
Moses Taylor Hospital, Scranton
Mt. Sinai Hospital, Philadelphia
Passavant Hospital, Pittsburgh
Pennsylvania Hospital, Philadelphia
Philadelphia General Hospital, Philadelphia
Philadelphia Polyclinic Hospital, Philadelphia
Pittsburgh Hospital, Pittsburgh
Pottsville Hospital, Pottsville
Presbyterian Hospital, Philadelphia
Presbyterian Hospital, Pittsburgh
Reading Hospital, Reading
Robert Packer Hospital, Sayre
Sacred Heart Hospital, Allentown
St. Agnes Hospital, Philadelphia
St. Francis Hospital, Pittsburgh
St. John's General Hospital, Pittsburgh
St. Joseph's Hospital, Lancaster
St. Joseph's Hospital, Philadelphia
St. Joseph's Hospital, Pittsburgh
St. Joseph's Hospital, Reading
*St. Joseph's Infant and Maternity Hospital, Scranton
St. Luke's Hospital, South Bethlehem
St. Margaret's Hospital, Pittsburgh
St. Mary's Hospital, Philadelphia
St. Vincent's Hospital, Erie
Samaritan Hospital, Philadelphia
Scranton State Hospital, Scranton
South Side Hospital, Pittsburgh
Uniontown Hospital, Uniontown
Washington Hospital, Washington
West Philadelphia Hospital for Women, Philadelphia
Western Pennsylvania Hospital, Pittsburgh
*Westmoreland Hospital, Greensburg
Wilkes-Barre City Hospital, Wilkes-Barre
Wills Hospital, Philadelphia
Women's Homeopathic Hospital, Philadelphia
Women's Hospital, Philadelphia
York Hospital and Dispensary, York

50 to 100 beds

Annie M. Warner Hospital, Gettysburg
Bainbridge Private Hospital, Philadelphia
Beaver Valley General Hospital, New Brighton
*Carlisle General Hospital, Carlisle
Children's Hospital, Philadelphia
Children's Hospital, Pittsburgh
Citizens General Hospital, New Kensington
*Columbia Hospital, Columbia
Cottage State Hospital, Blossburg
DuBois Hospital, DuBois
Eye and Ear Hospital, Pittsburgh

*Frederick Douglass Memorial Hospital, Philadelphia
Good Samaritan Hospital, Lebanon
Homeopathic Hospital, West Chester
Howard Hospital, Philadelphia
*Indiana Hospital, Indiana
J. C. Blair Memorial Hospital, Huntington
Jewish Maternity Hospital, Philadelphia
Joseph Price Memorial Hospital, Philadelphia
*Kane Summitt Hospital, Kane
*Lock Haven Hospital, Lock Haven
Maple Avenue Hospital, Du Bois
*Montgomery Hospital, Norristown
Montefiore Hospital, Pittsburgh
*New Castle Hospital, New Castle
Oil City Hospital, Oil City
Palmerton Hospital, Palmerton
Philadelphia Lying-in Charity Hospital, Philadelphia
Pittston Hospital, Pittston
*Polyclinic Hospital, Harrisburg
Providence Hospital, Beaver Falls
St. Luke's Homeopathic Hospital, Philadelphia
St. Vincent's Hospital, Philadelphia
Sewickley Valley Hospital, Sewickley
Shamokin Hospital, Shamokin
*State Hospital of Nanticoke, Nanticoke
Stetson Hospital, Philadelphia
Suburban Hospital, Bellevue
Windber Hospital, Windber

35 to 50 beds

Great Heart Maternity Hospital, Philadelphia
*Lee Homeopathic Hospital, Johnstown
West Side Sanitarium, York

RHODE ISLAND

100 or more beds

*Newport Hospital, Newport
Providence City Hospital, Providence
Rhode Island Hospital, Providence
St. Joseph's Hospital, Providence

50 to 100 beds

*Memorial Hospital, Pawtucket
Providence Lying-in Hospital, Providence

SOUTH CAROLINA

100 or more beds

Florence Infirmary, Florence
Greenville City Hospital, Greenville
Roper Hospital, Charleston
South Carolina Baptist Hospital, Columbia

50 to 100 beds

Anderson County Hospital, Anderson
Baker Sanatorium, Charleston
St. Francis Xavier Infirmary, Charleston

35 to 50 beds

Orangeburg Hospital, Orangeburg

SOUTH DAKOTA

100 or more beds

Chamberlain Sanitarium and Hospital, Chamberlain
McKenna Hospital, Sioux Falls
Methodist State Hospital, Mitchell
Sacred Heart Hospital, Yankton
St. Luke's Hospital, Aberdeen

AMERICAN COLLEGE OF SURGEONS

50 to 100 beds

Bartron Hospital, Watertown
 Lincoln Hospital, Aberdeen
 Luther Hospital, Watertown
 *Methodist Deaconess Hospital, Rapid City
 Moe Hospital, Sioux Falls
 New Madison Hospital, Madison
 Peabody Hospital, Webster
 *St. Joseph's Hospital, Deadwood
 St. Joseph's Hospital, Mitchell
 St. Mary's Hospital, Pierre

TENNESSEE

100 or more beds

Baptist Memorial Hospital, Memphis
 Erlanger Hospital, Chattanooga
 George W. Hubbard Hospital, Nashville
 Knoxville General Hospital, Knoxville
 Memphis General Hospital, Memphis
 Nashville City Hospital, Nashville
 St. Joseph's Hospital, Memphis
 St. Thomas Hospital, Nashville
 Vanderbilt Hospital, Nashville

50 to 100 beds

Appalachian Hospital, Johnson City
 Baird-Dulaney Hospital, Dyersburg
 Lucy Brinkley Hospital, Memphis
 *Millie E. Hale Hospital, Nashville
 Newell and Newell Sanitarium, Chattanooga
 Protestant Hospital, Nashville
 Riverside Hospital, Knoxville
 Woman's Hospital of State of Tennessee, Nashville

35 to 50 beds

Crippled Children's Hospital, Memphis
 Dr. W. C. Campbell's Hospital, Memphis

TEXAS

100 or more beds

Baylor Hospital, Dallas
 Baptist Hospital, Houston
 Central Texas Baptist Sanitarium, Waco
 Hotel Dieu, Beaumont
 John Sealy Hospital, Galveston
 Methodist Hospital, Houston
 Parkland Hospital, Dallas
 *Providence Sanitarium, Waco
 Robert B. Green Memorial Hospital, San Antonio
 St. Joseph's Infirmary, Ft. Worth
 St. Joseph's Infirmary, Houston
 St. Mary's Infirmary, Galveston
 St. Paul's Sanitarium, Dallas
 Santa Fe Hospital, Temple
 Santa Rosa Infirmary, San Antonio
 Scott and White Hospital, Temple
 Seton Infirmary, Austin
 Southern Pacific Hospital, Houston
 Wichita General Hospital, Wichita Falls

50 to 100 beds

All Saints' Hospital, Ft. Worth
 *Baptist Hospital, Fort Worth
 *City and County Hospital, Ft. Worth
 *City and County Hospital, Houston
 *Frances Ann Luther Hospital, Orange
 Harris Sanitarium, Ft. Worth

Hella Temple Hospital, Dallas
 International R. R. Hospital, Palestine
 King's Daughters Hospital, Temple
 *Lubbock Sanitarium, Lubbock
 Masonic Hospital, El Paso
 St. Anthony's Hospital, Amarillo
 *St. Joseph's Hospital, Paris
 *Sanatorium of Paris, Paris
 *Sherman Hospital, Sherman
 *Spohn Sanitarium, Corpus Christi
 Texarkana Sanitarium, Texarkana
 *Texas and Pacific R. R. Hospital, Marshall

35 to 50 beds

McKinney City Hospital, McKinney

UTAH

100 or more beds

Doctor W. H. Groves Latter Day Saints' Hospital Salt Lake City
 Holy Cross Hospital, Salt Lake City
 St. Mark's Hospital, Salt Lake City
 Salt Lake County Hospital, Salt Lake City
 Thomas D. Dee Memorial Hospital, Ogden

50 to 100 beds

Utah-Idaho Hospital, Logan

VERMONT

100 or more beds

Mary Fletcher Hospital, Burlington

50 to 100 beds

Fanny Allen Hospital, Winooski
 Heaton Hospital, Montpelier
 Rutland Hospital, Rutland
 *St. Albans Hospital, St. Albans

35 to 50 beds

*Brattleboro Memorial Hospital, Brattleboro

VIRGINIA

100 or more beds

Chesapeake and Ohio Hospital, Clifton Forge
 Hospital Division of Medical College of Virginia, Richmond
 Norfolk Protestant Hospital, Norfolk
 Retreat for the Sick, Richmond
 St. Vincent's Hospital, Norfolk
 Stuart Circle Hospital, Richmond
 University of Virginia Hospital, Charlottesville

50 to 100 beds

*Dixie Hospital and Hampton Training School for Nurses, Newport News
 Elizabeth Buxton Hospital, Newport News
 George Ben Johnston Memorial Hospital, Abingdon
 Grace Hospital, Richmond
 Jefferson Hospital, Roanoke
 Johnston-Willis Sanitarium, Richmond
 King's Daughters Hospital, Staunton
 *King's Daughters Hospital, Portsmouth
 Lake View Hospital, Suffolk
 Lewis Gale Hospital, Roanoke
 *Lynchburg Hospital and City Home, Lynchburg
 *Mt. Sinai Hospital, Norfolk
 Parrish Memorial Hospital, Portsmouth
 *Riverside Hospital, Newport News

Roanoke Hospital, Roanoke
 St. Elizabeth's Hospital, Richmond
 St. Luke's Hospital, Richmond
 Sarah Leigh Hospital, Norfolk
 *Sheltering Arms Free Hospital, Richmond
 Shenandoah Hospital, Roanoke
 Tucker Sanitarium, Richmond
 Winchester Memorial Hospital, Winchester

WASHINGTON

100 or more beds

Children's Orthopedic Hospital, Seattle
 Columbus Sanitarium, Seattle
 King County Hospital, Seattle
 Maria Beard Deaconess Hospital, Spokane
 *Northern Pacific Hospital, Tacoma
 Providence Hospital, Seattle
 Sacred Heart Hospital, Spokane
 St. Elizabeth's Hospital, Yakima
 St. Joseph's Hospital, Tacoma
 St. Luke's Hospital, Spokane
 St. Mary's Hospital, Walla Walla
 Seattle City Hospital, Seattle
 Seattle General Hospital, Seattle
 Swedish Hospital, Seattle
 Tacoma General Hospital, Tacoma
 Virginia Mason Hospital, Seattle

50 to 100 beds

*Everett General Hospital, Everett
 Minor Private Hospital, Seattle
 *Providence Hospital, Everett
 *St. Anthony's Hospital, Wenatchee
 *St. Joseph's Hospital, Aberdeen
 St. Joseph's Hospital, Bellingham
 St. Luke's Hospital, Bellingham
 St. Luke's Hospital, Seattle
 Walla Walla Sanitarium, College Place

WEST VIRGINIA

100 or more beds

Charleston General Hospital, Charleston
 Kessler Hatfield Hospital, Huntington
 Ohio Valley Hospital, Wheeling
 St. Mary's Hospital, Clarksburg
 Welch Hospital, No. 1, Welch
 Wheeling Hospital, Wheeling

50 to 100 beds

Beckley Hospital, Beckley
 Bluefield Sanitarium, Bluefield
 *Chesapeake and Ohio R. R. Hospital, Huntington
 Coal Valley Hospital, Montgomery
 Cook Hospital, Fairmont
 Davis Memorial Hospital, Elkins
 Fairmont Hospital, Fairmont
 Guthrie Hospital, Huntington
 Kings Daughters Hospital, Beckley
 *Kings Daughters Hospital, Martinsburg
 McKendree Hospital, No. 2, McKendree
 *St. Joseph's Hospital, Parkersburg
 St. Luke's Hospital, Bluefield

WISCONSIN

100 or more beds

Columbia Hospital, Milwaukee
 Holy Family Hospital, Manitowoc

LaCrosse Lutheran Hospital, LaCrosse
 Luthern Hospital, Eau Claire
 Madison General Hospital, Madison
 Marquette University Hospital, Milwaukee
 Mercy Hospital, Janesville
 Milwaukee Children's Hospital, Milwaukee
 Milwaukee County Hospital, Milwaukee
 Milwaukee Hospital, Milwaukee
 Mt. Sinai Hospital, Milwaukee
 St. Agnes Hospital, Fond du Lac
 St. Elizabeth's Hospital, Appleton
 St. Francis Hospital, LaCrosse
 St. Joseph's Hospital, Marshfield
 St. Joseph's Hospital, Milwaukee
 *St. Mary's Hospital, Green Bay
 St. Mary's and Mercy Hospitals, Oshkosh
 St. Mary's Hospital, Milwaukee
 St. Mary's Hospital, Superior
 *St. Mary's Hospital, Wausau
 Wisconsin State General Hospital, Madison

50 to 100 beds

Evangelical Deaconess Hospital, Milwaukee
 Grandview Hospital, LaCrosse
 *Hanover Hospital, Milwaukee
 *LaCrosse Public Hospital, LaCrosse
 Milwaukee Infant's Home and Hospital, Milwaukee
 Milwaukee Maternity Hospital, Milwaukee
 *St. Catherine's Hospital, Kenosha
 St. Joseph's Hospital, Dodgeville
 *St. Luke's Hospital, Racine
 St. Mary's Hospital, Madison
 St. Mary's Hospital, Racine

35 to 50 beds

Methodist Hospital, Madison

WYOMING

50 to 100 beds

Casper Private Hospital, Casper
 *Natrona County Hospital, Casper
 Wheatland Hospital, Wheatland

CANADA

ALBERTA

100 or more beds

Edmonton General Hospital, Edmonton
 General Hospital, Calgary
 Holy Cross Hospital, Calgary
 Medicine Hat Hospital, Medicine Hat
 Misericordia Hospital, Edmonton
 Royal Alexandra Hospital, Edmonton
 University of Alberta Hospital, Edmonton

50 to 100 beds

Brett Hospital, Banff
 *Galt Hospital, Lethbridge
 Lamont Public Hospital, Lamont
 Municipal Hospital, Drumheller

BRITISH COLUMBIA

100 or more beds

Provincial Royal Jubilee Hospital, Victoria
 Royal Columbian Hospital, New Westminster
 Royal Inland Hospital, Kelowna
 St. Eugene Hospital, Cranbrook

St. Joseph's Hospital, Victoria
 St. Paul's Hospital, Vancouver
 Vancouver General Hospital, Vancouver

50 to 100 beds

Queen Victoria Hospital, Revelstoke
 *St. Mary's Hospital, New Westminster
 *Vernon Jubilee Hospital, Vernon

MANITOBA

100 or more beds

Brandon General Hospital, Brandon
 Children's Hospital, Winnipeg
 Grace Hospital, Winnipeg
 King Edward Hospital, Winnipeg
 King George Hospital, Winnipeg
 Misericordia Hospital, Winnipeg
 St. Boniface Hospital, St. Boniface
 *Victoria Hospital, Winnipeg
 Winnipeg General Hospital, Winnipeg

NEW BRUNSWICK

100 or more beds

General Public Hospital, St. John
 St. John County Hospital, East St. John

50 to 100 beds

Chipman Memorial Hospital, St. Stephen
 Hotel Dieu, Campbellton
 Hotel Dieu, Chatham
 Miramichi Hospital, New Castle
 Moncton Hospital, Moncton
 St. John's Infirmary, St. John
 Soldiers Memorial Hospital, Campbellton
 Victoria Public Hospital, Fredericton

NOVA SCOTIA

100 or more beds

St. Joseph's Hospital, Glace Bay
 Salvation Army Hospital, Halifax
 Victoria Hospital, Halifax

50 to 100 beds

*Aberdeen Hospital, New Glasgow
 Children's Hospital, Halifax
 General Hospital, Glace Bay
 Grace Maternity Hospital, Halifax
 Halifax Infirmary, Halifax
 Highland View Hospital, Amherst
 St. Martha's Hospital, Antigonishe
 Sydney City Hospital, Sydney
 *Yarmouth Hospital, Yarmouth

ONTARIO

100 or more beds

Brantford General Hospital, Brantford
 General Hospital, Toronto
 Grace Hospital, Toronto
 Hamilton General Hospital, Hamilton
 Hotel Dieu, Kingston
 Hotel Dieu, Windsor
 General Hospital, Kingston
 McKellar General Hospital, Ft. William
 Ottawa General Hospital, Ottawa
 Protestant General Hospital, Ottawa

St. Joseph's Hospital, Hamilton
 St. Joseph's Hospital, London
 St. Joseph's Hospital, Port Arthur
 St. Joseph's Hospital, Sudbury
 St. Luke's General Hospital, Ottawa
 St. Michael's Hospital, Toronto
 Sick Children's Hospital, Toronto
 Western Hospital, Toronto
 Victoria Hospital, London
 Wellesley Hospital, Toronto

50 to 100 beds

*General Hospital, Belleville
 General Hospital, Sault Ste. Marie
 *Niagara Falls Memorial Hospital, Niagara Falls
 Nicholls Hospital, Peterboro
 Oshawa General Hospital, Oshawa
 Owen Sound General and Marine Hospital, Owen Sound
 Public Hospital, Smith Falls
 St. Francis Hospital, Smith Falls
 St. Joseph's Hospital, Peterboro
 *Welland County Hospital, Welland
 Women's College Hospital, Toronto

PRINCE EDWARD ISLAND

50 to 100 beds

Charlottetown Hospital, Charlottetown
 Prince Edward Island Hospital, Charlottetown
 Princes County Hospital, Summerside

QUEBEC

100 or more beds

Children's Memorial Hospital, Montreal
 De La Misericordia Hospital, Montreal
 General St. Vincent Hospital, Sherbrooke
 Hotel Dieu, Montreal
 Jeffery Hale's Hospital, Quebec
 Montreal General Hospital, Montreal
 Notre Dame Hospital, Montreal
 Royal Victoria Hospital, Montreal
 Sainte Justine Pour Les Enfants, Montreal
 Western Hospital, Montreal

50 to 100 beds

*Homeopathic Hospital, Montreal
 Montreal Foundling and Baby Hospital, Montreal
 Montreal Maternity Hospital, Montreal
 *St. Francois d' Assise, Quebec
 *Sherbrooke Hospital, Sherbrooke

SASKATCHEWAN

100 or more beds

Grey Nun's Hospital, Regina
 *Moose Jaw General Hospital, Moose Jaw
 St. Paul's Hospital, Saskatoon
 Saskatoon City Hospital, Saskatoon

50 to 100 beds

Holy Family Hospital, Prince Albert
 Hugh Waddell Memorial Hospital, Canora
 Notre Dame Hospital, North Battleford
 Providence Hospital, Moose Jaw
 Victoria Hospital, Prince Albert

HAWAII

Queens Hospital, Honolulu

NEW ZEALAND

Dunedin Hospital, Dunedin

FRANCE

*American Hospital, Paris

MARINE HOSPITALS OF THE UNITED STATES
PUBLIC HEALTH SERVICE

Marine Hospital, No. 1, Baltimore, Maryland
Marine Hospital, No. 10, Key West, Florida
Marine Hospital, No. 11, Louisville, Kentucky
Marine Hospital, No. 15, Pittsburgh, Pennsylvania
Marine Hospital, No. 20, Savannah, Georgia
Marine Hospital, No. 21, Stapleton, New York
Marine Hospital, No. 43, Ellis Island, New York
Marine Hospital, No. 66, Carville, Louisville, Kentucky
Marine Hospital, No. 70, New York, New York
Marine Hospital, No. 12, Memphis, Tennessee
Marine Hospital, No. 13, Mobile, Alabama

Marine Hospital, No. 14, New Orleans, Louisiana
Marine Hospital, No. 18, St. Louis, Missouri
Marine Hospital, No. 82, Norfolk, Virginia
Marine Hospital, No. 5, Chicago, Illinois
Marine Hospital, No. 17, Pt. Townsend, Washington
Marine Hospital, No. 8, Evansville, Indiana
Marine Hospital, No. 9, Fort Stanton, New Mexico
Marine Hospital, No. 19, San Francisco, California

NATIONAL HOMES FOR DISABLED VOLUNTEER
SOLDIERS

National Military Home, Sawtelle, California
National Sanitarium, Hot Springs, South Dakota
National Sanitarium, Johnson City, Tennessee
National Military Home, Hampton, Virginia
National Military Home, Danville, Illinois
National Sanitarium, Marion, Indiana
National Military Home, Dayton, Ohio
National Military Home, Milwaukee, Wisconsin
National Military Home, Togus, Maine
National Military Home, Leavenworth, Kansas

The cooperation and interest of the New York and Brooklyn hospitals, the Committee on Dispensary Development and the Hospital Information Bureau contributed greatly to the conference. The latter two organizations, both of the United Hospital Fund in New York, maintained an Information Bureau at the Academy of Medicine Building, in addition to an interesting hospital and clinical exhibit. The hospitals of New York and Brooklyn afforded every opportunity of studying modern principles in construction, equipment, organization, management and all other phases.

Brooklyn Hospital Day was organized by the Council of Brooklyn Hospitals which included twenty-four institutions. An Information and Service Bureau, under the auspices of the Brooklyn Hospitals Council, was maintained at the Waldorf-Astoria headquarters during the week of the conference. Wednesday, October 22, was set aside as Brooklyn Hospital Day. Cars for some four hundred people were provided, leaving the Waldorf-Astoria at 9 A.M. for Brooklyn. Each car was in charge of a guide and accompanied by a traffic officer so as to secure the right of way as far as possible. Three groups were formed, each visiting eight hospitals during the day. At the various hospitals visited the superintendent and staff were ready to demonstrate special features. The hospital people were guests of the Council at luncheon in Brooklyn, after which they continued their tour and were returned by their hosts to the Waldorf-Astoria at 6:30 P.M. All who participated in the day's program gained a great deal of practical information and carried away with them the warmest feelings toward the Brooklyn Hospitals Council for the pleasant and profitable occasion afforded them.

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